

Case Studies

From the
Skillnets
Pilot Project

Measuring the
Impact of
Training and
Development
in the Workplace

Skillnets
Networked Learning

Boosting
Skills and
Productivity

Index of Case Studies

Type of Training	Type of Data Collection Method Applied at Level 4	Type of Isolation Method Applied
Technical (Crafts) Training Bord na Móna Diageo	Performance Monitoring Bórd na Mona Braun Oral B Choice Hotels Complete Laboratory Systems Constructive Solutions Diageo Glanbia Heineken Hilton Hotels Laepple Lionbridge Novartis Pat the Baker	Control Group Bord na Móna Laepple
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Sales Training Choice Hotels		
Food Safety Training Complete Laboratory Systems		
Health and Safety Training Laepple Pat the Baker	Control Group Bord na Móna Laepple	Participant Estimates Complete Laboratory Systems Constructive Solutions Glanbia Heineken Hilton Hotels Laepple
Management Development Constructive Solutions Novartis Heineken	Trend Line Analysis Braun Oral B Laepple	
Basic Skills Glanbia	Management Estimates Bord na Móna Choice Hotels Glanbia Heineken Lionbridge Novartis	
Size of Company <i>Small >50 employees</i> Complete Laboratory Systems Constructive Solutions <i>Large <50 employees</i> Bord na Móna Braun Oral B Choice Hotels Diageo Glanbia Heineken Hilton Hotels Laepple Lionbridge Masterchefs Novartis Pat the Baker	Participant Estimates Choice Hotels Glanbia Heineken Hilton Hotels Laepple Lionbridge Novartis Pat the Baker	

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Introduction

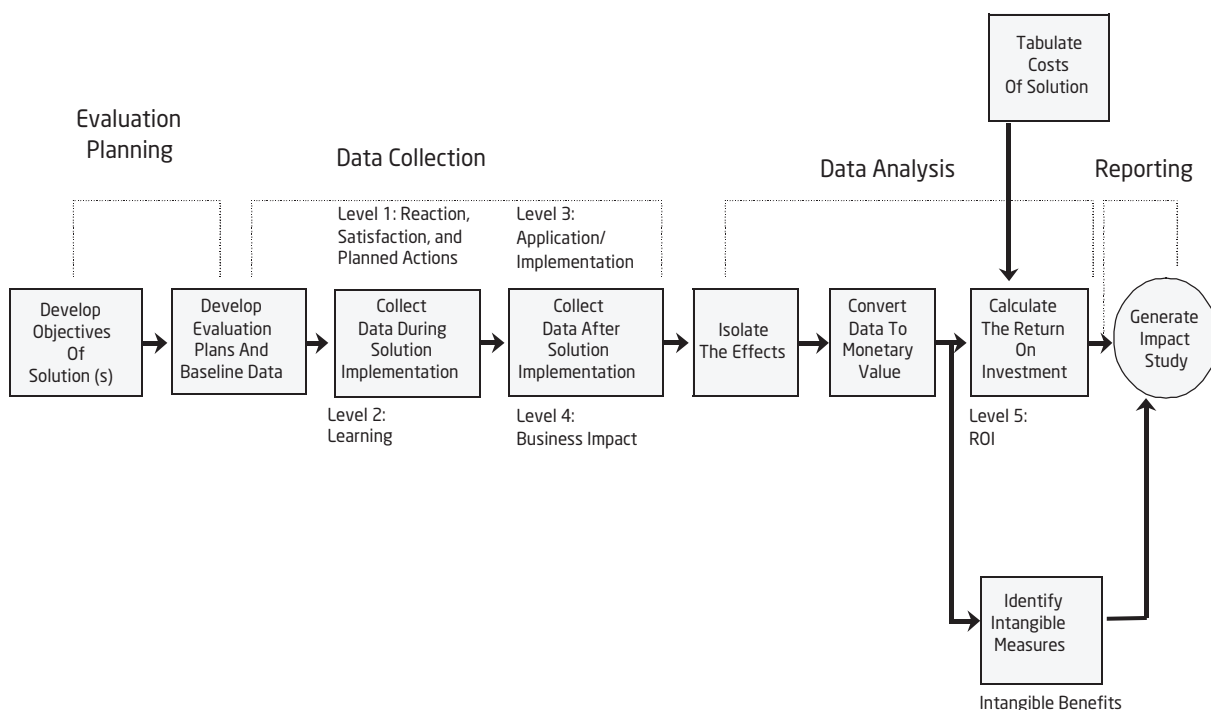
This book contains a summary of 14 case studies developed under the Skillnets ROI Impact Project during 2004-05. One further case study is in draft format but were not yet approved by company management in time for publication. The case studies detail the experience of the companies in implementing an impact measurement process, supported by Skillnets, to test the usability and applicability of the Kirkpatrick and Phillips Evaluation Models in evaluating the impact of training in companies.

Dr Donald Kirkpatrick's (1959) four levels of evaluation are: **(1) Reaction** (of the participants to the training usually measured in surveys distributed at the end of the training session); **(2) Learning** (gains in skills and knowledge achieved by the participants usually measured by pre and post tests); **(3) Behaviour** (focused on whether the skills and knowledge gained

in training are applied and practiced. This is usually measured on the job three months or more after training); and **(4) Results** (or ultimate outcomes of the training in terms of company goals). Kirkpatrick's model has been expanded to include a fifth level (5) ROI by Dr Jack J. Phillips measuring return on investment of level four results (Phillips 1996). The model is shown in Table A.

The project concluded that both models were certainly applicable. The results of the pilot project show that they are methodologically sound, comprehensive and credible and, hence; acceptable in the Irish business context. The models are usable with adequate training and support. (see Final Report Skillnets Pilot Project 2004)

Table A: The Kirkpatrick and Phillips Models (Phillips 1997)



Introduction

The project was implemented between January and December 2004 in five stages :

- > Select networks and companies
- > Agree objectives with companies
- > Test models in companies
- > Evaluate results
- > Build awareness

The project involved a formal agreement between Skillnets and participating companies, training sessions on the evaluation models for company personnel earmarked to carry out the evaluation studies and consultant/advisor services to support the carrying out of the exercise.

It is quite apparent from the project outcomes, as assessed by the independent evaluation, that even with limited time and basic expertise the rigorous application of the ROI process yields a clear and credible result with a multiplicity of beneficial uses. This is borne out in the Case Studies in this book which have been produced as part of the project and designed to be beneficial in building awareness of the process and in future training.

The case studies identify a range of enablers and barriers to effective implementation of an evaluation process which include :

- > Company support and acceptance (at all levels)
- > Time and cost constraints (and hence the need for time saving tools of analysis, manuals and job aids)
- > Basic knowledge of the models (and hence the need for training)

All of the companies have agreed with Skillnets to allow the publication of these case studies in a complete format, subject only to holding some proprietary company data confidential.

These case studies have been prepared by the company personnel involved in the project in collaboration with the consultants appointed by Skillnets, the Impact Measurement Centre. Skillnets wishes to express sincere thanks to all involved in

delivering a series of outline case studies in such a short time. They make very interesting reading.

Note

This is a companion volume to the

- > Final Report of the Skillnets Pilot Project, Measuring the Impact of Training and Development in the Workplace, and
- > Resource Pack, Lessons from a Skillnets Pilot ROI Project - Measuring the Impact of Training and Development in the Workplace.

Both of which are available from Skillnets.

Skillnets Ltd

Skillnets (established in 1999) is an enterprise-led support body which manages the Training Networks Programme, an initiative to support groups of companies to expand the quantity and quality of training in Ireland. Skillnets is funded under the National Training Fund through the Department of Enterprise Trade and Employment. The networks are financed through a co-investment arrangement with the participating companies.

Skillnets stakeholders are drawn from industry and represent employer interests from IBEC (Irish Business and employers Confederation), the CCI (Chambers of Commerce of Ireland), the CIF (Construction industry Federation), the SFA (Small Firms Association), and employee/trade union representatives from ICTU (Irish Congress of Trade Unions).

Skillnets is funded through the National Training Fund by the Department of Enterprise, Trade and Employment

Bord na Móna

Measuring the Impact of a Customised in-house Technician Training Programme

Kevin Harte

Consultant: Gerry Doyle

Abstract

This study evaluated the impact of a training programme which was designed and delivered by in-house personnel to upskill technicians (craft workers) and enable them to carry out a more extensive range of repairs on machines in the field. Even though the size of the training programme was relatively limited the results show how a full ROI study can be implemented and, in particular, show how effective a control group arrangement can be in isolating the impact of training from other factors.

Company Background

Bord na Móna is an international supplier of products and services based principally on peat. It is a substantial landowner. It operates on a decentralised basis through subsidiary companies. The Bord na Móna group is founded on complementary skills and experience acquired over 50 years. Established to develop Ireland's peat resources in the immediate post War years, it is now active across a range of peat based and other industries.

It has strong skills in resource management and development, manufacturing, distribution, science, engineering and human resource development. It owns 85,000 ha of peatland, employs approximately 2,000 people and operates out of 30 localities mainly in Ireland, but also in the United Kingdom and eastern United States. It has a turnover of nearly €200 million.

Bord na Móna supplies peat as a fuel for the generation of electricity; a range of peat-based fuels, coal and oil for residential and industrial heating; horticultural products for commercial horticulturists and home gardeners; and pollution abatement products, environmental consultancy and commercial laboratory services to industry and public authorities. It is a leading international supplier of products and services based on peat.

Training Programme

Bord na Móna manufactures custom designed equipment to lay rails across bogland for transporting peat from the bog to power stations between 1994-97. 19 of these are currently in operation. The cost of the machine is in the region of €650,000. These are advanced, modern and complicated machines involving both a front end bucket-loader and a crane-rail grab mounted on the rear. They contain advanced electrical components as well as mechanical and hydraulic systems. Due to constant operation in adverse conditions (both winter and summer) the machines can breakdown. The machine operator then calls the Workshop Foreman for a technician (either a fitter (mechanic) or electrician or both) to come on site to carry out repairs. Because of turnover in staff some existing technicians are not fully conversant with all aspects of the machine operation. In addition demarcation lines between electricians and fitters have meant that more than one person may be called out to effect repairs. It was hoped that this issue could have been helped by an agreement to pay additional remuneration for cross-skilling among craft workers.

Objectives of the Training Programme

The company identified the aims of the training course in summary as "cost reduction and improved operational efficiency".

Specifically, the company wished to see:

- > Reduction in the number of times by fitters make requests for advice and support by engineering design and technical staff
- > Problems with machines on site solved faster
- > One man not 2-3 being required to solve problems
- > Realise real benefits of paying for cross-skilling

The company had based the need for the programme on feedback from Maintenance Managers, Workshop Foremen and discussions with craft workers.

Bord na Móna

The Training Programme was delivered over a three day period in-house. A total of 40 technicians were trained over a six month period in small groups of 6-9. The groups were based on the company's regional structure. The content of the programme can be summarised as:

Day 1 - Introduction and familiarization with the machine - Mechanical Elements

Day 2 - Electrical Components

Day 3 - Test, Fault and Fix

A mixture of classroom instruction and practical demonstration and practice using a machine in the company's workshop was used. The instructors were both members of the Bord na Móna staff.

The curriculum aimed to improve the skills of the technicians in the following main areas:

- > How to diagnose problems with the machine from the use of indicator dials and data in the control panel
- > How to use schematic drawings, hydraulic symbols
- > Understand the working of all mechanical and electrical systems, circuits and machine operating systems
- > Dismantle and assemble key machine components
- > Removing and replacing components
- > Fault finding and the use of fault-cause-remedy charts

Foremen also received this training so they could better identify the type of problem and tools and materials needed from phone conversation with the operators and before dispatching a technician to the site.

Machine Driver Instructors also sat-in on the training to incorporate key aspects relating to problem diagnosis to driver-operators so they could better describe why the machine wasn't working. Decals were also attached to driver cabs to facilitate this.

Anticipated Results of the Training

Implementation time for the training was dependent on the number of times a trainee may subsequently be called out to repair this particular machine. This varied depending on the time of the year, weather, production schedules, etc.

The specific desired outcomes of the training were:

- > Diagnosing problems quicker and more accurately (by using indicators in the vehicle monitoring system instead of immediately 'getting out the tool box')
- > Be able to tackle any repair problem (not just those within their own area of technical expertise)
- > Not requiring phone or off-site back-up or support to complete repairs
- > Being able to complete all repairs alone (without a second technician) and in one visit

These then were translated into the following clear business results so that the impact on the operation of the company could be assessed:

- > Improved operating time of machines leading to continuous flow of peat production
- > Less machine down time
- > Reduced cost of technicians on machine repairs freeing them up for other duties
- > Reduced cost of engineering/technical staff being required for back-up freeing them up for other duties
- > Value for expenditure on additional pay for cross-skilling agreement

Evaluation Process

Planning of the evaluation process began shortly after the first group had finished training (the Data Collection Plan prepared is attached as an Appendix). Nonetheless, it was decided to invite them to complete a 'smile' sheet (level 1) evaluation and in fact all the participants subsequently returned the questionnaire. The following tools were used to conduct the evaluation:

Level 1 - The reaction to the training was assessed by a Questionnaire which was completed by all trainees at the end of the training.

Level 2 - The learning obtained by the participants was assessed by a Questionnaire at the end of the training and by observation by the instructors based on both a check list which was completed in respect of each participant and observation of a structured skill/confidence-building exercise.

The trainees were also tested on

- > How to diagnose problems from the use of indicators on the control panel.
- > How to read schematic diagrams.
- > Understand Electrical & Mechanical Systems.

Level 3 - Two to three months after the training the trainees supervisors (Foremen) completed a detailed questionnaire in order to assess whether the trainees were using the skills acquired during training on the job. The Foremen and the Instructors, who were also engaged in operation duties which brought them into contact with the trainees, also observed application on the job (reported on a standard form).

Level 4 - In measuring business impact it was planned to focus on:

- > Machine Down time - monitor any changes;
- > Call-out times pre and post-training
- > Reduced material and labour cost
- > Value for additional payments for cross-skilling

Evaluation Results

The analysis of questionnaires at the end of training showed an average satisfaction level of 4.7 out of 5.0 against a target of 4.0 which displayed a very high level of satisfaction with the training. Comments provided by the trainees showed that they found the training very worthwhile, practical and directly job related. Some had been a bit reluctant about it prior to training but were happy they had done the training. All were willing to use the skills learned.

Both the trainees questionnaire at the end of training and observation by the instructors confirmed that all the trainees had learned most of what had been taught on the course. In the skill/confidence-building exercise (on a scale of 1 - 5) 86% reached level 4.

The Data Collection Plan had set a target of 4 (out of a max 5) in terms of application of the skills on the job as determined by the Foremen in written questionnaires. The actual results were in a range from 3.8 to 4.2 in terms of application. It should be noted that the opportunities for application were relatively limited since the learning could only be applied when one of these machines broke down and the frequency of this varied by region and by season.

Determining Business Impact

The original plan for determining business impact was to obtain data under the following headings:

Reduced machine down-time.

It was intended that this should be calculated from the machine operating logs but these proved to be inadequate and since there was no other reliable data this measure was not used.

Call-out times

Because the amount of time spent by technicians on repairs to these particular machines had not previously been isolated from the time they spent on general duties during a working shift it was decided to develop call-out time data by requested a selected group of Foremen to complete a pre-training Call-out Log of call-out times and a post-training Call-out Log of call-out times. This was diligently completed by the Foremen in question but the data obtained - the number of call-outs for machine repairs - in the period during which the evaluation was conducted was deemed too low for

Bord na Móna

comparison with the pre-training call-out times. This was due to the seasonal variation involved. Most of the training took place in the spring which meant that the call-out times post training were for the summer period and the available data for pre-training related to the previous winter period. It was decided therefore, not to use this data.

Reduced Material and Labour Cost

Management personnel in the workshop, engineering department and stores completed a special impact interview with the in-company evaluator to determine reduced time for (a) the number of times that engineering staff were called upon to provide technical support to technicians in the field, and (b) the reduced quantity of spare parts for this particular type of machine being drawn out of the stores, which turned out to be 10% reduction.

Value for expenditure on cross-skilling

It was not possible to determine a precise return related to cross-skilling expenditure but it is possible to list this as a clear intangible benefit of the training.

Control Group

As the training was being carried out and further fine tuning of the evaluation process was being put in place it became clear that the use of a control group, which had not been originally contemplated, could be implemented. This was made possible due to the fact that the training was being delivered on a phased basis by region. The first round of training had been conducted in the East Region and no training had been carried out in the Western Region. The group chosen as the control group were situated in the Western region. They were geographically distant from the trained group (70 miles) and had no regular contact with them. The craft workers were of similar age and had undergone the same basic training as those in the trained group.

The Foremen's logs for the call-out times and data provided by the engineering department in relation to the requirement for technical support over the telephone provided tangible numbers on which to base a calculation for the impact of the training.

The following table shows the comparative figures for the two groups -

Item	Target	Control Group	Trained Group	% Difference
No of times extra technician required to complete repairs	10%	25%	12%	52%
No of times telephone support sought to complete repairs	10%	25%	0%	100%
Time taken to solve problem (hours)	3	3.5	3.1	13%

Isolating the Effect of the Training

The impact interviews carried out by the in-house evaluator revealed that two peat fuelled power stations came out of service in the summer of 2004. While this might have had an impact on the machine down-time data this did not effect the final calculation as machine down-time was not, in the final event, taken into the equation. Weather conditions in certain months may have a bearing on the length of time taken to complete repairs but, in general, conditions were good during the monitoring period during which the control group arrangement was in place.

Cost of the training

Training Needs Analysis	€300.00
Development, Design,	€1370.00
Delivery.	€11380.00
Evaluation.	€650.00
Total.	€13700.00
Less Grants.	€3000.00
Total Cost.	€10700.00

Calculating Return on Investment

Based on the data collected for reduced labour cost (25%) and material cost reduction (10%), a total of €14,700 was the estimated saving.

Thus the following calculations were arrived at-

$$\text{BCR} = \frac{€14700.00}{€10700.00} = 1.37$$

$$\text{ROI} = \frac{€4000.00}{€10700.00} \times 100 = 37.38\%$$

Intangible Benefits

The following intangible benefits of the training were identified:

- > Greater level of confidence among craft workers.
- > Improved Teamwork.
- > Greater level of cross-skilling and greater value for investment in cross-skilling

Barriers/Enablers

In carrying out the evaluation the following barriers and enablers to an effective evaluation process were identified:

- > Geographic spread of company - getting questionnaires completed etc
- > First time to do it - fast learning curve
- > Support from Management
- > Training provided by Skillnets
- > Getting buy-in from people in the company

Appendix

Data Collection Plan

Level	Objectives	Measures Data.	Data Collection	Data Sources	Timing	Responsible
1	Positive Reaction Team Building	Scale 1-5 Average 4 Result 4.7	Reaction Questionnaire	Participants	3rd Day of Course	K Harte.
2	Crosskilling Hydraulic & Electrical Diagnose Problems	Scale 1-5 Satisfactory 4 80% to 3. Result 86% reached 4	Observation. Skill Confidence Building exercise.	Instructors	During Training Course.	K Harte.
3	Use of Skills Frequency No. of Craft involved	Reported frequency Is skill applied Result 4.2 / 3.8 foremen.	Questionnaire.	Participants Foremen	2 Months after Training.	K Harte.
4	Maintenance cost reduction Less machine down time.	Reduced Material & Labour cost. 25% / 10%	Performance Monitoring Control Group.	Management + Foremen.	Pre and Post Training.	K Harte.
5	ROI. Estimated 25%	Actual 37.38%				

Braun Oral B Ireland Ltd

Applying an ROI Analysis to a Pilot Problem Solving Training Programme

Berna Ward

Consultant: Gerry Doyle

Abstract

Developing effective multifunctional teams and enabling employees to engage directly in problem solving are desired objectives of many training interventions. In this case study a pilot training programme to achieve these aims was conducted with a group of employees in one section and evaluated up to the full Return on investment level. The study used a trend line analysis to arrive at a figure for the savings obtained which were substantial.

Company Background

Braun Oral-B Ireland, manufacturing in Ireland since 1974, is a part of The Gillette Company and employs over 1,000 people in Ireland, between both Newbridge, Co Kildare and Carlow. The Gillette organisation founded over 100 years ago, has gained, held and strengthened leadership positions through the Company's strategy of managing its business with a long-term, global perspective

The Gillette Company's Vision is to build Total Brand Value by innovating to deliver consumer value and customer leadership faster, better and more completely than the competition.

This vision is supported by fundamental principles that provide the foundation for all its activities. These include a focus on Achievement / Integrity / Collaboration.

BRAUN ORAL-B IRELAND prides itself on its state of the art manufacturing facility, superior product quality and design and on its highly efficient workforce. Its mission of Continuous Improvement, Organisational Development and adaptability to Change has been the key contributor to its ongoing success. The Carlow manufacturing facility, where this study took place, produces a wide range of products including various Refill Cartridges, Personal Care Products, and most recently Oral Care products for world-wide markets. Technical and product innovation, speed to market and teamwork are key contributors to the success of the plant as are continuous Improvement initiatives which

are reinforced in an ongoing commitment to education, training and career development.

Concept Behind the Training Programme

Operations at the Carlow plant of the company follow the typical hierarchical structure in departments such as Engineering, Production, Toolroom, Quality Assurance, HR and so on. The company has been concerned that on a day to day basis and at mid to lower levels there is not enough appreciation of the roles, functions and challenges facing other departments. What might be termed "support" departments are sometimes inclined to leave responsibility for delivering product to outside markets to the manufacturing departments.

To counteract this trend the company has for some time has been moving toward the organisation of work within multifunctional teams on the shop floor. In general this has been accomplished on a somewhat informal basis and the company has been looking for opportunities to move to a more formal introduction of multi functional teams.

Multifunctional teams are expected to positively effect the plants KPIs through cross fertilisation of ideas, improved understanding of business needs at all levels, improved employee engagement, and overall a more efficient workforce through empowerment and involvement. Ultimately, this will have a positive overriding effect on response to change and facilitate new product allocation for the plant from Gillette & Braun headquarters.

At the same time the HR department at the Carlow plant had been aiming to standardise the approach to "problem solving" on the shop floor. It was therefore, decided to develop a pilot project which would, so to speak, help 'kill two birds with the one stone' by providing training in problem solving techniques to a multifunctional team. This team was set up as a Pilot team assigned to the thermoforming area on the factory floor. The team consists of members from the following departments: QA, Engineering, Supply Chain, Manufacturing, Toolroom and HR.

Training Programme

The section within the plant chosen for the pilot was the Lens Filter area. This section uses a thermoforming process and packaging of a medical device attachment for electronic thermometers. It operates on a 24/7 basis and has 30 employees associated with it (18 Directly and 12 Indirectly). It has an output volume in excess of 10m units per week and its key challenges are maintaining its KPIs, improving efficiency, machine utilisation, quality, OEE, and material usage.

The training programme was designed in response to needs identified to the HR staff which were mainly to do with the need to adopt a multifunctional approach to day to day issues, the requirement for a team work approach, ability to solve problems on the factory floor quickly and effectively without the need to pass problems up the line for resolution, effective management of meetings, empowerment of staff, facilitation of cross fertilisation of ideas, and engagement of the technical group directly in achieving the KPIs.

The aims of the training programme were focused specifically on two areas that could be measured and would bring about immediate improvements if delivered and taken on board effectively; problem solving techniques and effective meeting management. It was decided to use a vendor supplied programme 'Effective Problem Solving' through a team approach utilising a 7 Step technique and better management of meetings based on a vendor supplied 'MFM (Managing for Motivation)' programme. For purposes of the pilot group 8 people were trained. A total of five and a half days training was delivered to the group.

The programme objectives from the company's perspective were focused specifically on Material Usage Variance (MUV) savings and on achievement of KPIs. The company was also keen to see an elevated role for technicians resulting from the training.

In terms of outcomes for the trainees it was hoped that they would gain:

- > Ownership and understanding of KPIs and business needs
- > Enhanced engagement /involvement
- > Increased commitment
- > Appreciation of Departmental functions
- > Cross fertilisation of ideas
- > Understanding Business needs and the 'bigger picture'
- > Improved employee relations
- > Problem Solving skills
- > Conduct effective meetings

The training was delivered on-site in a classroom format by the external training provider during April-May 2004.

Evaluation Results

The evaluation was carried out primarily using questionnaires for levels 1 and 2 completed by the trainees at the end of the training. This was followed up by observing the actual practice of running meetings, problem solving on a day to day basis and the operation of the multi-functional team. The main data used for identifying a business result was the reported material usage variance.

The results of the evaluation are summarised below:

Level 1

The training was very well received by the participants who scored it at 4.0 or higher on a 1-5 scale. The competence and approach of the consultant was considered to have been impressive. The techniques taught were practical and directly related to the job. Overall the reaction to the training was very good.

Level 2

Exercises administered during the training showed that the participants learned new knowledge and skills in problem solving and ability to manage meetings more effectively.

The style of the course was highly interactive with plenty of opportunity for all participants to practice the skills taught. Also, feedback from the tutor was very positive, noting full participation from all trainees.

Level 3

In terms of application of what had been learned on the job a number of tangible developments provided credible indicators: the multifunctional team was established and working to a project assigned by steering group. Meetings were being run effectively in line with what had been taught on during training. Feedback from Questionnaires and Observations reflect that problem solving skills were being practiced on the job as part of the multifunctional team.

In addition, very significant PMT (Junior Technician) engagement was observed. In particular one PMT developed an innovative recording system - which even the equipment manufacturer couldn't develop! Toolroom involvement and experience was broadened. Team members were more knowledgeable of material systems, scrap issues, etc. The supervisor was able to adopt a different role, acting more as a leader/chairperson. For the first time there was direct involvement in the team by HR staff which all sides found beneficial.

Level 4

Contributors of loss have been identified and corrective actions are following. Material Usage variance improvements have been effected. Scrap levels reduced throughout the process.

Of particular note was the discovery of a significant variation in stock take that would not have been noted without the higher levels of engagement of the trained employees. New systems have been introduced by the team in the sorting area and in scrap recording.

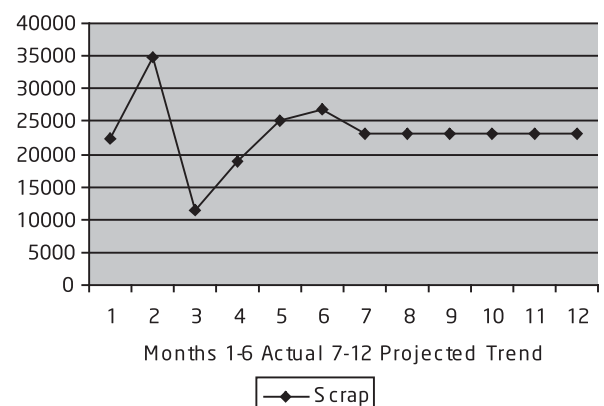
Calculating the Return on Investment

The analysis presented a number of data items that could be used for conversion to a monetary value in order to arrive at an estimated return on investment. The one that has been chosen is scrap levels since credible data is readily available in respect of this item.

In the six months immediately preceding the training the value of scrap levels averaged €23,243 per month. In the five months following training this figure averaged €3,103 or an average saving of €20,141 per month. If projected over the full twelve month period this would give an overall annual saving of €241,686. Interviews with management established that no other factor in the period, apart from the training, could have influenced the change.

Another means of arriving at the saving is to carry out a trend line analysis. This is used only in cases where there are no factors apart from the training which could have influenced the change, as in this case. From the Linear Trend Line chart below it can be seen that in the six months preceding the training there were some major fluctuations in the scrap level trend but if the trend is projected for a further six months the average monthly value of scrap would be €23,027. When this is compared to the actual average value for that projected period of €3,103 a saving of €19,924 or an annual saving of €239,088.

Linear Trend Line



The total cost of the training was €30,060. In line with the standards established by Dr Jack Phillips the most conservative or lowest of the two figures - €239,088 - is used to apply the savings and in calculating the ROI, as follows:

$$\text{BCR} = \frac{€239,088}{€ 30,060} = 7.95$$

$$\text{ROI} = \frac{€209,028}{€ 30,060} \times 100 = 695\%$$

Intangible Benefits

A number of benefits have been identified which have not been used in the ROI calculation and these include:

- > Multifunctional team established
- > Meetings being run effectively
- > Problem solving skills being practiced on the job as part of the multifunctional team.
- > Very significant employee engagement observed.
- > Toolroom involvement and experience broadened.
- > Team members more knowledgeable of material systems, scrap issues, etc.
- > Supervisor able to adopt a different role, acting more as a leader/chairperson.
- > HR staff involved with multifunctional team
- > New sorting and scrap recording systems introduced.

Barriers and Enablers

The following barriers and enablers were identified both in terms of the training programme and the process of evaluating it up to the ROI level:

- > Pace of project - time frame was very tight
- > Inexperience (New approach for Braun) and the sharp learning curve
- > Commitment from steering team

Choice Hotels Ireland

Call Centre Training Programme Reaps High Reward

*Triona Brangan, Michelle Whelehan, Jennifer Ryan
Consultant: Eoghan O'Grady*

Abstract

A training programme for call centre staff of a major nationwide hotel chain shows a significant return on investment. A particular feature of the programme is the detailed planning of the training in advance, the establishment of baseline skill levels for the trainees and the use of a 'mystery caller' as one of the means of assessing whether the training was applied on the job.

Company Information

Choice Hotels Ireland is the largest Hotel chain operating in Ireland. It is affiliated to Choice Hotels International, part of the largest hotel franchise in the world. There is already a Choice Hotel in every continent and the number of hotels is continually growing. Choice hotels Ireland manages and holds the franchise for nearly 30 hotels. It directly manages 15 properties with 4 more planned to open in the first six months of 2005. CHI was started by Frankie Whelehan with one Hotel in 1998. It now employs in excess of 1,500 employees. In Ireland there are three different brands of hotels:

- > 'Clarion', our 4* corporate deluxe Hotels
- > 'Quality', our 3* Family and Leisure Hotels
- > 'Comfort Inns', our Room only accommodation

Book Now

The group targeted for training was the 'Book Now' team based in the Choice Hotels Office in Cork. They are a team of call handling agents who handle bookings on behalf of CHI. Each hotel within the group allocates a specific percentage of its room sales each month to the Book Now team to sell. Rates are agreed in advance with each hotel. The book now team then take bookings and update the reservation system of each hotel. The Book Now call centre is small and still in its infancy. The Book Now team consists of five agents who are supervised by Emma Dooley, the Book Now Supervisor. Emma was previously an agent and has recently been promoted to her current position. Emma reports to the Group Rooms Revenue Manager, Ciara Byrne.

Training Providers

It was decided to go to an external training provider for this type of training to provide the specialist knowledge

and expertise that could not be provided from within the company. Having done some research on training providers delivering this type of training in Ireland two providers were identified and briefed over the phone and asked to send in a proposal based on the course requirements. This included pre course work, training event objectives and post course suggestions also. Ciara Byrne and the Group Training and Development Manager, Triona Brangan, met with each of the providers and reviewed their proposal with them. Having met with both providers it became evident that each provider had a particular strength in terms of the overall training requirement. "A" the first training provider was particularly strong in carrying out the mystery calls, where the second training provider, "B", was particularly strong in terms of the delivery of the training event and also had a good understanding of the industry and the challenges the Book Now team were facing. Having decided to split the work between the two providers both were contracted to deliver the training as outlined.

Training Provider A is a UK based firm that deals with companies from around the world. Part of their business focuses on carrying out mystery calls. Part of the training involved setting the call standards which the book now team would use to when handling calls. Prior to the training it was necessary to devise temporary call standards so that calls could be audited against an agreed set of criteria. The criteria were agreed and calls commenced two months prior to the training event taking place. The calls were made by A to the Book Now agents. The book now agents were unaware that the calls were being made to them and audited against a set of standards. It was important that the call were audited prior to the training without the agents knowledge so that the effectiveness of the training could be measured impartially.

To maximise the benefit of the mystery calls it was also decided to get the company to benchmark the call centre against that of four main competitors. The same call standards criteria were used to measure competitors so that we could compare like with like.

The results of the call audits could be accessed on line at the web site and could be sorted in numerous ways including downloading pre prepared bar charts. This was an important factor because it was essential that the information be easily accessed and user friendly for us to maximise the benefit we would get from this. As part of the training was to set call standards, the call audit

standards were changed slightly following the training session.

Training provider B was selected as one of their key areas of specialism was call centres. Although they were not a specialist in the hotel sector they had been involved in delivering call centre training to a hotel chain in Ireland and therefore had an understanding of the business and the types of call being handled. A large part of the training event involved motivating the Book now team and facilitating the agreement of call standards which they would then be audited against. The training provider chosen was particularly strong on interpersonal and communicative skills but was also very focused on achieving the aims of the training and the post training follow up.

Training Objectives

The objectives of the training were established following a needs analysis. The contributor to the needs analysis comprised:

- > The overall business plan for the Book Now team demanded that certain skills knowledge and behaviours be changed.
- > Discussions with Ciara Byrne and Emma took place. These involved reviewing current skill levels, key areas for improvement and identifying areas where the training could facilitate improvement e.g. 'Benefits Sheets'.
- > Each of the Book Now team were also asked to submit ideas which they felt the training should focus on.
- > The results of the first two months mystery calls were also analysed to see if there were any specific areas which might dictate the objectives.
- > Training provider B was also consulted for specialist knowledge.

It was from the list of objectives that the training programme was written by B.

Prior to the training event taking place a second meeting was held with B. This meeting was attended by Emma and Triona. The training programme was viewed and discussed. It was felt important for Emma to know what was going to be delivered on the day so that she could fully endorse, prompt and support the training provider. This meeting was of particular importance for all parties involved and for the overall effectiveness of the training.

Training Delivery

The training was delivered at the Choice Hotels Ireland office in Cork, where the book now team are also based. A meeting room in the building was used over a one and half day period to deliver the full training programme. The entire Book Now team were in attendance as well as Emma. The training was delivered using LCD power point, flip chart, group work, taped role plays and feedback and one to one work. The tone of the training event itself was both relaxed and interactive.

Pre-Training Benchmarking

(i) Nomination Form

Data was collected in the form of 'Nomination Form' prior to running the training event to gauge participant and manager commitment to the training programme. The nomination forms, used for all training events, were distributed by Emma and supplied in advance of the training event.

The nomination forms gauge the participants understanding of why they are attending the course and how it will impact on their job role afterwards. It also questions why the manager has chosen to send the participant on the training programme, whether

the training need has been identified in advance, their perception of how the course would impact on the business, and how they felt they could measure effectiveness of the training event.

(ii) Skills Check

A skills check sheet was used to gauge participant self assessment of their own skill level prior to attending the training event. It contained 11 statements and the participant had to tick their skill level from a choice of 5 levels of knowledge/skills. Each of the statements was closely linked to and derived from the course objectives. Analysis of the data collected shows that the participants average self assessment of their skill level was 62% prior to the training event

Evaluation of the Programme

Level 1 - Reaction

(i) Evaluation Form

Reaction data was collected at the end of the training event using a standard evaluation form. This focused on issues such as presentation of the training event, delivery method, course content and trainer skills. It also asked how participants felt they were going to apply what they had learnt back in their department. Overall learner

Choice Hotels Ireland

perception is reflected in the analysis of these scores, which showed a 95% average satisfaction rating.

Level 2 - Learning

(i) Skill Check

The skill check sheet used prior to the training event was revisited to try to capture the participants own assessment of whether their skill level had changed if at all following the training event. The results of the analysis of the skill check sheets post training showed an average self assessment of 86% i.e. the participants felt their skill levels had increased by 24%.

(ii) Call Standards

Part of the training required the participants to devise their own call standards based on the theory of best practice call standards. The standards suggested by the participants were considered appropriate by the training provider. This indicates a good level of learning. Indeed this might be considered an in-course test as their ability to devise such standards was a function of the extent to which they had learnt during the training event. These would form the template of how each call should be handled. These standards would also form the basis of how each 'Mystery call' is measured / audited.

Level 3 - Application/Implementation

(i) Mystery Call Audit

To determine whether the call handling standards had changed following the training 'mystery calls' were carried out by A. These calls were conducted for a two month period prior to the training event against a set of call standards which were very similar to those devised by the participants during the training programme. 20 calls were made in total each month and results were given by agent and against each call standard. Points were allocated and % results were given against a variety of criteria. The mystery calls were continued following the training event for a further 5 months. The agents were made aware of the mystery calls during the training event and were aware that the mystery calls would continue for the following 5 months. Each agent was given their own password and access code to A's web site so they could view the results at any time. The reports were structured in such a way that it was possible to individualise each call result, this also provided a useful tool to facilitate retraining and to assess ongoing agent training needs. The standards used by A to audit the calls were those which the agents had devised during the training event. This was a very important point as it was necessary that the agents took ownership and full responsibility to ensure the standards could be met.

The results of the mystery calls also contributed to the measurement of the effectiveness of the training event. They were carried out by A and not Choice Hotels Ireland nor B who delivered the training course. This analysis showed an 11% increase in scores from May to June.

(ii) Observation

Agents were observed by their immediate line manager both prior to and after the training event. However, these observations were not linked to set criteria nor formally recorded. This would have involved additional effort and it was felt that application / implementation measures were sufficiently rigorous without this formal assessment.

(iii) Questionnaire

To determine whether the participants felt they had applied the knowledge and skills learned a questionnaire was used. It was completed 12 weeks after the training event. This two page questionnaire covered the following areas:

- > Job impact
- > Application of learned skills and knowledge
- > Barriers to implementation
- > Enablers for implementation
- > Estimated improvements to job performance
- > Estimation of both positive and negative impact on the business
- > Reaction on value for money

A similar questionnaire was used to gauge reaction from Ciara Byrne, the Group Rooms Revenue Manager. In devising this questionnaire it was important to maintain a considerable degree of similarity to facilitate comparison with the results of the agent's questionnaire. It was hoped that the results of Ciara's questionnaire would support and consolidate the agent's feedback. The participants felt that the training was 45% responsible for the increase in revenue. They stated an average confidence level of 63%. The supervisor felt that the training was 25% responsible for the increase in revenue. She stated a confidence level of 75%. The average impact of the training across all six respondents i.e. five training participants and the supervisor, amended for confidence, was 23.95%. The impact of the training amended for confidence of the supervisor was 19.25%. For the purposes of the ROI calculation (see below) and in line with the Philips approach, the more conservative figure i.e. 19.25% was used.

(iv) Performance Review

Eight weeks after the training event had taken place one to one reviews were conducted with each agent by Emma. These focused around the results of the mystery calls and agents performance in the previous eight weeks. In those areas where the individual's performance had not improved or improvement had not been sufficient, the relevant aspect of the training programme was referred to and the participant was asked to revise their knowledge of it. A significant 're-improvement' in the application of best call-handling practice by the team was observed after these reviews.

Level 4 - Business Impact

(i) Call handling performance

The participants identified on average a 67% improvement in their performance with 73% of this attributed to the training with a confidence level of 62%. The supervisor identified an 80% improvement in the Book Now Team's performance with 100% of this improvement attributed to the training with a confidence level of 100%.

(ii) Impact of Improved Performance on revenue

The participants suggested that their improved performance (on foot of the training) contributed 45.5% of the increase in revenue and were on average 63% confident of this response. The supervisor suggested that the improved performance of the Book Now team (on foot of the training) contributed 25% of the increase in revenue and she was 75% confident of this response.

(iii) Call Conversion Rate

The call conversion rate i.e. the percentage of potential customer enquiries that were converted to sales increased from an average of 48.5% for the April to May period to 57.5% for the June to August period.

(iv) Increase in revenue

The June to August monthly average revenue increased by 150.5% over the April to May monthly average.

Isolating the Effects of the Training

To facilitate a considered response to this question, the participants and the supervisor were given a list of potential additional contributing factors to the improvement in revenue. These included seasonality factors, differing rates charged by Book Now to Choice Hotels from one period to the next, an increase in the number of calls redirected from the hotels to the call centre, a different type of team supervision, and increased advertising / promotion activity. Only one factor additional

to the training was identified i.e. the opening of a new Choice Hotel in Youghal, County Cork in July 2004. Further as mentioned above, the participants suggested that their improved performance (on foot of the training) contributed 45.5% of the increase in revenue and were on average 63% confident of this response and the supervisor suggested that the improved performance of the Book Now team (on foot of the training) contributed 25% of the increase in revenue and she was 75% confident of this response.

Return on Investment

The net contribution of the training to the increase in revenue as a direct result of the training as estimated by the participants was 63% of 45.5% (the statistical confidence level adjustment) which equals 28.65%. The supervisor (Emma) gave a lower estimate of 25% of which she was 75% confident, and this equals a 19.25% contribution of training to the revenue increase. Adhering to Philip's advice that one should use the most conservative estimate, this 19.25% figure is used for evaluating the ROI. The total increase in revenue was €376,082 and the training costs amount to €7,800.

Therefore the ROI is calculated as follows:

19.25% of €376,082 = €72,396;
 €72,396 minus €7,800 = €64,596;
 €64,596 divided by 7,800 = 8.28
 8.28 multiplied by 100 = 828%

ROI = 828%

Intangible Benefits

The three highest ranked intangible benefits according to the participants were:

- > Increased commitment to Choice Hotels
- > Improved teamwork
- > Increased agent confidence

The three highest ranked intangible benefits according to the supervisor were:

- > Improved teamwork
- > Increased job satisfaction
- > Increased agent confidence

Complete Laboratory Systems

Time Lag from Completion of Training Does Not Prevent an ROI Study

*Evelyn O'Toole, Jackie Gibney
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Abstract

This case study confirms the view that all training programmes can indeed be evaluated to level 5 and that although some 'attributes / features' of a training programme may be problematic when it comes to ROI calculation, other attributes may facilitate ROI evaluation. This Food Safety Training Programme was thoroughly evaluated 15 months after it was completed and a credible ROI calculation was arrived at.

Company Information

Complete Laboratory Systems (CLS) was established in 1994. The company's state of the art, purpose-built, contract laboratories are situated in a facility next to the historic site of Teach an Phiarsaigh (Pearse's Cottage), in Rosmuc, County Galway. This is in a uniquely cultural and beautiful area of the Connemara Gaeltacht. There are 13 people employed full-time with CLS and 7 part-time. CLS has grown with industry demand for high quality laboratory testing and is equipped with dedicated technologies along with highly qualified microbiologists, chemists, technicians and environmental science experts. CLS's reputation for customer service, quality, and technical ability has established the company as the preferred laboratory for both industry and regulators. From initial contact through to sample collection, and eventual report turn around time CLS is committed to meeting and surpassing the commitment it makes to its clients. CLS has five strategic divisions:

Microbiology - Food testing at all stages of production in the meat, poultry and fisheries, ensuring your products conform to the safety and quality demands set by the regulatory authorities and ultimately the demands of the consumer.

Environment - Water & discharge quality testing and monitoring, serving local authorities, industry and private schemes in, IPC licences, water catchment areas, discharge and pollution.

Clean Room - CLS provides testing and monitoring of clean room environments. Industries include healthcare, pharmaceutical, medical device, biomedical and IT.

Training - CLS provides customised in-house hygiene training programmes for the food production, supply, catering and hospitality industries. These approved courses are essential to ensuring your staff are regulatory compliant.

R & D - CLS's on-going research and development programme ensures your company always avails of the latest technology and procedures in rapid testing and monitoring systems.

Training Programme

The programme evaluated for the purposes of this project was titled 'Food Safety Programme'. It was delivered during the period February to December 2002. The training provider was a recognised and certified food safety audit training provider.

The identified main challenges for CLS going forward were logistics (the effects of CLS's location in a remote part of Connemara), competition (the increased entry of contract laboratory service providers into the industry) and costs (the increased costs associated with providing such services). The training was seen as a response in particular to the second challenge - increased competition. CLS was concerned with developing its staff so as to be able to provide an additional service (Gold Programme) i.e. food safety auditing to clients (existing and potential). Under legislation / regulatory requirements, staff must be certified to a standard level of competence in food safety audits in order to be able to carry out governing authority recognised audits. Providing food safety audits is also a potentially more lucrative service i.e. the returns / fees are greater.

The needs were arrived at as part of the development of the company's strategic plan under a sub section called Strategic Product and Development focusing on food services. Discussion at management level identified the need and a training provider was contracted to develop a programme to respond to these needs. The company was assured by the training provider that the programme offered would benefit the

group leaders and further refine their needs at individual and team level and provide responses to those needs.

The general objective of the programme was to enable the implementation of 'a proactive food safety programme to members of the Hotel, Restaurant and Hospitality industry'. The programme covered the following areas: food sampling, analysis, reporting methods, evaluation of cleansing systems and auditing.

Audit training was carried out to I.S.340 (1994) standard. More specifically staff were trained in the following aspects of auditing: scheduling, preparation / information gathering, on-site behaviours, audit conduction, audit follow-up e.g. identified corrective actions.

The training was a mix of traditional classroom type teaching and practical exercises during three visits to working kitchens where on site live audit training took place.

Three general results were expected: 1) that CLS attain certification as food safety audit providers, 2) that CLS staff become skilled in carrying out such audits, 3) on foot of above that CLS would begin to win such food safety audit contracts.

Five key staff (the Quality Manager, the Technical Manager and three Lab Technicians) involved in sampling, analysis and reporting participated in the 'Food Safety Programme'.

Evaluation of the Programme

The evaluation of this programme was carried out as part of the Skillnets ROI Impact Project during 2004. The company decided to attempt to evaluate the Food Safety Training Programme even though it had been completed at the end of 2002, fifteen months previously. This decision was based on a number of considerations including: the significant investment in the training for a small company of this size, the lengthy period over which the training had been carried out, the fact that all the key players in the company had been involved, and, the potential impact on the strategic development and expansion of the company arising from the training programme.

Furthermore, the programme had many other attributes which facilitated ROI measurement, not least the relative ease with which pre and post programme financial data was available and could be compared. Critically, in the view of CLS, all those staff that participated in the training programme were still employed by CLS in 2004 and therefore could contribute to the impact measurement study.

Level 1 Reaction / Satisfaction

A significant challenge at Levels 1 and 2 was that the analysis had to be completed retrospectively.

Since all Trainees were still employed by CLS it was possible to have 100% complete a 'Smile Sheet'. The training delivery encompassing location, time, materials etc. was deemed professional and competent and overall the training was beneficial to the trainees. There appears to be some gap between the identified objectives of the training and those actually delivered. This appears, based on the additional comments provided in response to the open ended question, to be due to the facilitation of less practical application and more theory than had been anticipated. The overall reaction / satisfaction rating was 73%.

Level 2 Learning

The trainees clearly learned new knowledge and skills. The relatively low score for ability to retain the information is a function of the absence of opportunity, in the period immediately after the training, to apply what was learnt as indicated in the additional comments provided. The average score for that learnt during the course, gathered via a participant questionnaire which incorporated reflection on practical exercises carried out during the training programme, was 72%.

Level 3 Application

Trainees and Supervisors had completed an 'Impact Study Course Evaluation' some time after the training programme. Supervisors completed an additional Impact Study Course Evaluation during the Skillnets pilot project. There was a 100% response rate. The key finding was that less than half what was learned was applied to the job which may be accounted for by the fact that the contents was not all directly job-related. Notably the three lab technicians scored the application of skills learnt especially low i.e. 20 and 30

Complete Laboratory Systems

percent respectively whereas the quality manager and the technical manager both scored this 70%.

Level 4 Business Impact

The Managing Director in consultation with the evaluation consultant identified a number of areas that could be examined to help determine a business impact. A special impact questionnaire covering 1) job impact, 2) application, 3) business results and 4) value for money was completed by 100% of participants.

The business measure used to ascertain the value of this programme was data to do with the acquisition of new contracts. The total for the aggregate sum of entirely new food audit contracts (Gold Programme) and extension of existing contracts (Bronze or Silver Programmes) to Gold Programme (add on sales) during 2003 was €137,000. In 2002 there were no such contracts, as the staff had not been trained to deliver them, while in 2003 there were 83 after the company started to market this service due to the availability of trained personnel.

Isolating the Effects of the Training

The net improvement as a direct result of the training as estimated by the participants was 100% of 48% (the statistical confidence level adjustment) which equals 48%. However, the manager gave a lower estimate of 35% of which she was 80% confident, and this equals 28% improvement. Taking the average of both estimates we arrive at an improvement of 38%.

It can be argued that as the training was required for certification which was in turn required in order to tender / bid for 'Gold Level' food audit contracts, training could be considered 100% responsible for the increase in contracts. This is due to the nature of this particular training programme and its direct impact on company business i.e. without the certification gained via the training, no gold level contracts could have been 'won'. The responses of the participants and the manager to the business impact questions appear to have considered the latent potential of the skills gained.

Return on Investment

The time lag from programme completion to business impact raised some questions concerning the calculation of an ROI. The ROI formula, from an accounting perspective, relates to benefits obtained against costs incurred in the same financial year or 12 month accounting period. In this case the training was delivered in 2002 but no benefit could occur, nor did it occur, until 2003. In such exceptional cases, according to Dr Jack Phillips, it is acceptable to make the calculation with the costs for the first period compared to the benefits in the second period as no benefits could possibly have arisen in the first period.

Increased Sales (new contracts) in 2003 = €137,000. The profit margin on sales is 12% which gives a total annual benefit of €16,440.

The average estimate of the net benefits attributable to the training was 38% of €16,440 which is €6247.20.

The total cost of the training was €32,460.

$$\text{ROI} = \frac{\text{Net Programme Benefits i.e. Benefits - Costs}}{\text{Programme Costs}}$$

$$\frac{€6247 - €32,460}{€32,460 \times 100}$$

$$\text{ROI} = - 81\%$$

However if one accepts the argument that training was 100% responsible for this €137,000 increase in turnover as without this training, no such increase could have occurred given the regulatory framework, the relevant figures are

$$\frac{€16,440 - €32,460}{€32,460 \times 100}$$

$$\text{ROI} = - 49\%$$

Whichever figures are used, the negative ROI is not unexpected. It had been anticipated that there would be a time delay between attaining the certification and the winning of Food Safety Audit contracts. Complete Laboratory Solutions could not market themselves as Food Safety Auditors until they attained this certification. If food safety contacts won in the 2004 period were factored into the ROI, the ROI would be positive.

Intangible Benefits

The Food Safety Auditing has had a positive impact on

- > Improving food safety programme image
- > Increasing job satisfaction
- > Improved teamwork
- > Improved customer service
- > Improved customer loyalty

Constructive Solutions

Major Impact from SME Project Management Training Programme

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Abstract

This is a very comprehensive study of a project management training programme delivered in a small company and evaluated to exacting standards. The study shows the value in very careful and thorough planning of both the training and the evaluation and how it is possible to achieve significant benefits training organised and delivered as part of a collaborative venture among a group of companies.

Company Background

Constructive Solutions has been in operation for 25 years providing Building Defect Solutions and Conservation Craft Skills to customers based all over Ireland. Projects range between €5,000 and €1,000,000, and customers range between owners of listed buildings obliged to restore and maintain them sensitively, owners of original sash windows and institutions with whom maintenance contracts are in place.

There are currently 11 employed in the company including 2 directors. Key challenges are the increasing size and scope of contracts being secured, which the company currently finds difficult to manage and deliver within agreed timeframes while maintaining the targeted return rates.

Business Need

The primary business need identified was the achievement of consistency in recovery rates per hour to no more than 10% below the targeted recovery rates for all jobs.

To enable this to happen the training programme must deliver the following:

- > Improved planning of jobs and contracts generally.
- > Project planning processes developed and implemented.
- > Team leaders to be self-directed in running projects and compiling reports.
- > Business standards being set and applied to all projects and contracts.
- > Timeframe management being put in place and measured on all contracts.
- > Daily information from all sites being received and acted upon, resulting in improved efficiency in invoicing, impacting as cash flow benefits.
- > Improved planning of contracts and projects leading to increasing awareness of all parameters involved and thus reduced waste time and inefficiencies.

Training Programme

The purpose of the training programme was:

- > To give team leaders improved skills and tools for planning and delivery of projects and contracts with budget and agreed timeframes.
- > To give the owner manager and project manager increased skills and capacity re. pricing, planning and managing the delivery of all construction projects.
- > To improve communications within the team by providing an opportunity for the identification and solving of problems currently being experienced in the effective management and delivery of profitable, efficient projects and contracts.
- > Overall to deliver on the improvements detailed above under business needs.

4 team leaders and 3 project managers (including the owner-manager) were trained.

The expected benefits of the training for:

(i) The Company were

- > Improved planning and pricing of projects and contracts going forward.
- > Improved return rates per hour achieved on contracts.
- > Improved record in delivering contracts within the agreed timeframe.
- > Increased and improved delegation of key tasks from Owner-Manager to Team Leaders, leading to improved strategic focus on the business by the owner-manager.
- > Improved site-office communications.

(ii) The Participants were

- > Improved understanding of the requirements for ensuring delivery on jobs within agreed timeframes.
- > Greater ease in delivery of contracts through the resolution of key problems and difficulties currently being faced in the workplace.
- > Procedures developed and implemented for managing risk and contingencies relating to contract management and delivery.
- > Skills developed for more effective management of contracts and projects.
- > Tools provided and developed for more effective management of contracts.

The training was delivered by a series of 5 x 1/2 day Group workshop sessions under the Skillnets Training Networks Programme, as a collaborative venture with a group of small companies. Participants and owner-managers and key staff were drawn from all the businesses involved in the network. There was also a number (3-4) Business Specific half day clinics held with participants from Constructive Solutions. Training delivery began on 24th March 2004 and ran until end July 2004. The training was delivered by an external training provider outside company premises at a central location.

Considerable effort went into designing the training programme. Trainees completed a participant profile prior to commencement, identifying their own learning

objectives and particular areas of interest. Responses from these were used in the ongoing development of the training programme. The owner-manager worked with the trainer and other owner managers involved in the programme to set out the content and to determine the training delivery mechanisms to be used. The programme was continually developed and improved on a session-by-session basis, based on the feedback of the participants and their specific requirements and issues. Clinic sessions were business specific and fully led and dictated by the participants.

Evaluation Planning

The overall purpose of the evaluation was to measure the return on investment to the business from key staff undertaking the project management programme.

As part of this process the evaluation was designed to:

- > Determine (on an ongoing basis) the extent to which the training programme is meeting the needs of the participants and helping to improve their ability to fulfil their role in the business.
- > This evaluation material will be fed into the continuing training development process to ensure that the programme changes and improves to better meet the needs of participants as it proceeds.
- > To determine to what extent the participants are actually learning and to what extent this learning is relevant to their jobs.
- > To determine to what extent participants are implementing what they are learning and to assess what further supports and assistance are required to help them to implement this learning in the workplace.
- > To determine the benefit of the training to the participants and the business in general and assess to what extent the investment in training has yielded returns (both tangible and intangible) to the business.

Constructive Solutions

The following targets were established for each of the four evaluation levels:

Level 1

- > Reaction sheets for each Group Workshop Session, average rating 4 out of 5.
- > Reaction sheets for clinic sessions as a whole, average rating 4 out of 5.
- > Agreed individual planned actions undertaken at each group session, by at least 80% of participants.
- > Planned action discussed and agreed action at clinic sessions by the group as a whole.

Data Collection Tools for Level 1:

- > Reaction sheets for each Group workshop session, by each participant.
- > Reaction sheets for clinic sessions as a whole, by each participant.
- > Agreed individual planned actions undertaken at each group session, by each participant.
- > Planned action discussed and agreed at clinic sessions, for the group of participants. This will culminate in an 'issues list' where issues raised are noted, and action to be taken agreed and reviewed at subsequent sessions.

Level 2

- > Questionnaires completed by all participants
- > Participants have the knowledge, skills and tools necessary for effective and efficient project/contract management and delivery. (learning section of questionnaire)
- > Issues and problems raised have been discussed and solutions and approaches agreed upon.
- > Relevant and useful templates have been developed by participants.

Data Collection Tools for Level 2:

- > Questionnaires completed by participants on completion of the programme.

Level 3

- > Questionnaires completed by all participants.
- > Questionnaires completed by supervisors for all participants.
- > Interviews with staff to identify progress and implementation in specified areas. >
- > Improved planning of jobs and contracts generally. Q
- > To-do's being completed by participants generally. Q
- > Project planning processes being implemented by participants generally. Q
- > Participants self-directed in running projects. Q
- > Participants compiling relevant reports. Q
- > Business standards are established and being applied to all contracts/projects. Q
- > Timeframe management is in place and being measured on all projects.

Data Collection Tools for Level 3:

- > Questionnaires completed by participants between 2 and 4 weeks after completion of the programme.
- > Questionnaires completed by supervisor between 2 and 4 weeks after completion of the programme.
- > Interviews conducted by project managers 1 month after the end of the programme.
- > Trainer and supervisors to confirm that agreed planned actions and clinic session to-do's are being completed by participants during and on completion of the programme (through review of the 'issues list' being developed.)
- > Review of the achievement of programme objectives on completion of the programme.

Level 4

- > Increase in recovery rates being achieved per hour, to not less than 10% below the targeted recover rate on all jobs.
- >≈ Daily information from sites being received and resulting in improved efficiency in invoicing, impacting as cash flow benefits.
- Improvement in working within timeframes.

- > Improved planning of contracts and projects leading to increased awareness of all parameters involved and thus reduced waste time and inefficiencies. Q
- > A questionnaire will be used (sub-element of level 3 questionnaire) to isolate the intangible benefits of the programme.

Data Collection Tools for Level 4:

- > Performance monitoring and review of financial and other relevant project/contract data on completion of and 2 months after the end of the programme.
- > Interviews with owner manager re. performance review.
- > Review of achievement of business and financial objectives 2 months after completion of the programme.
- > Review of issues list, progress made in implementing solutions and resulting impact on the business 2 months after completion of the programme.

Baseline Data

The company collected baseline data relating to the Skills and Knowledge of the participants prior to the commencement of training by use of a skills audit sheet. This revealed the following skill levels specific to the training proposed:

- > Assessing and making plans for dealing with risk on projects - Avg. 38%
- > Communication requirements for projects & communication behaviour - Avg. 50%
- > Planning, organising & managing work on projects - Avg. 40%
- > Key principles of project management - Avg. 29%
- > Setting milestones & targets for projects - Avg. 26%
- > Working in a project team - Avg. 52%
- > Managing & dealing with issues arising on projects - Avg. 67%
- > Estimating and pricing for projects - Avg. 29%
- > Tracking & managing progress on project - Avg. 36%

- > Establishing project management processes - Avg. 31%

The company also made a pre-training assessment of the extent to which the above competencies were actually being applied by the trainees - prior to the training. The following was the result:

- > Assessing and making plans for dealing with risk on projects - Avg. 29%
- > Communication requirements for projects & communication behaviour - Avg. 33%
- > Planning, organising & managing work on projects - Avg. 33%
- > Key principles of project management - Avg. 21%
- > Setting milestones & targets for projects - Avg. 21%
- > Working in a project team - Avg. 48%
- > Managing & dealing with issues arising on projects - Avg. 71%
- > Estimating and pricing for projects - Avg. 29%
- > Tracking & managing progress on project - Avg. 24%
- > Establishing project management processes - Avg. 26%

In terms of pre-training business performance the company established that the:

- > The current rate for the weighted average nett profit per man-hour on 5 contracts before the training.
- > Comparison of promised v's actual delivery dates on 5 contracts completed prior to training. Prior to the training there was no effective management of promised v's delivery dates. There was a practice in place of not clarifying expected delivery dates with the customer as it was extremely difficult to ensure that promised delivery dates would be met.
- > Business standards developed and understood by staff before the training programme. Prior to the training programme, business standards for project management were not recorded or structure and were not effectively communicated to staff.

Constructive Solutions

- > Processes in place for managing projects. There were no standard processes in place across the business for managing projects prior to the training programme.

Evaluation Results

Level 1

- > Reaction sheets for workshop sessions were completed by 90% of participants and show yielded an average score of 4.5 out of 5.
- >- Reaction sheets for clinic sessions were completed by 90% of participants and yielded an average score of 4.7 out of 5.
- > Agreed individual planned actions were undertaken at each group session, by an average of 70% of participants. Of these planned actions 70% of actions have been undertaken to date.
- > Planned actions were discussed and agreed at clinic sessions, for the group of participants. These culminated in an issues list in which issues were noted and actions taken accordingly.

Level 2

Questionnaires completed by participants and supervisors on completion of the programme yielded the following results:

Learning in key areas:

- > Assessing and making plans for dealing with risk on projects - Avg. Improvement of 39%
- > Communication requirements for projects & communication behaviour - Avg. Improvement of 29%
- > Planning, organising & managing work on projects - Avg. Improvement of 38%
- > Key principles of project management - Avg. Improvement of 49%
- > Setting milestones & targets for projects - Avg. Improvement of 51%
- > Working in a project team - Avg. Improvement of 34%

- > Managing & dealing with issues arising on projects - Avg. Improvement of 17%
- > Estimating and pricing for projects - Avg. Improvement of 29%
- > Tracking & managing progress on project - Avg. Improvement of 42%
- > Establishing project management processes - Avg. Improvement of 48%
- > Participants have the knowledge, skills & Tools necessary for effective contract / project management and delivery. - Avg. Improvement of 38%
- > Participant can use what s/he has learned in their work - 93%
- > The skills learned were relevant to participants needs and work - 91%

Level 3

Questionnaires completed by the participants and the supervisor after completion of the programme yielded the following results:

Implementation in key areas:

- > Assessing and making plans for dealing with risk on projects - Avg. Improvement of 46%
- > Communication requirements for projects & communication behaviour - Avg. Improvement of 41%
- > Planning, organising & managing work on projects - Avg. Improvement of 40%
- > Key principles of project management - Avg. Improvement of 33%
- > Setting milestones & targets for projects - Avg. Improvement of 33%
- > Working in a project team - Avg. Improvement of 28%
- > Managing & dealing with issues arising on projects - Avg. Improvement of 11%
- > Estimating and pricing for projects - Avg. Improvement of 12%
- > Tracking & managing progress on project - Avg. Improvement of 35%

- > Establishing project management processes - Avg. Improvement of 34%
- > Participants are using what they learned in their work - 76%
- > Participants are completing project management reports developed on the programme - 62%

Other implementation improvements:

- > 70% of planned actions have been completed to date, work is currently being carried out on the remaining 30%.
- > The primary objectives from the programme was the achievement of consistency in recovery rates per hour to no more than 10% below the targeted recovery rates for all jobs. This has been achieved on all new jobs.

To enable this to happen the training programme was to deliver the following:

- > Improved planning of jobs and contracts generally. - Achieved 100%
- > Project planning processes developed and implemented. - Achieved 100%
- > Team leaders to be self-directed in running projects and compiling reports. - Achieved 40%
- > Business standards being set and applied to all projects and contracts. - Achieved - 67%
- > Timeframe management being put in place and measured on all contracts. - Achieved - 67%
- > Daily information from all sites being received and acted upon, resulting in improved efficiency in invoicing, impacting as cash flow benefits. - Achieved - 33%
- > Improved planning of contracts and projects leading to increasing awareness of all parameters involved and thus reduced waste time and inefficiencies. - Achieved - 67%

- > To give team leaders improved skills and tools for planning and delivery of projects and contracts with budget and agreed timeframes. - Achieved - 75%
- > To give the owner manager and project manager increased skills and capacity re. pricing, planning and managing the delivery of all construction projects. - Achieved - 85%
- > To improve communications within the team by providing an opportunity for the identification and solving of problems currently being experienced in the effective management and delivery of profitable, efficient projects and contracts. - Achieved 100%

Level 4

Questionnaires completed by the participants and the supervisor after completion of the programme yielded the following results:

- > The training has improved the work effectiveness and productivity of participants - 76%
- > The training has had an overall benefit on the participants work - 80%
- > Improvements in planning of contracts has made participants more aware of all the issues involved - 80%
- > These improvements have reduced waste time and made participants more efficient at managing and dealing with issues on projects - 77%
- > There have been improvements in job planning, briefing and health and safety management since the beginning of the training programme - 87.5%
- > There have been improvements in response times, information flow and back up support since the training began - 71%
- > Average improvements in work performance since the beginning of the training programme, as a direct result of the programme (adjusted for confidence levels) - 69%

Constructive Solutions

Business Standards Developed

Greater standardisation around administration and management of projects and contracts generally including:

Templates - 6 standard templates developed including

- > Issue sheets
- > Job issue log
- > Profit & loss sheet
- > Folder index template
- > Invoice template
- > Pricing templates

Processes and procedures have been developed around the following:

- > Issue Sheets use and implementation
- > Project issues list use and implementation
- > Job scheduling
- > 'Tickler' everyday file
- > Folder set-up and organisational system
- > Project and office bibles
- > Enquiry sheets and folders
- > Resource hours reporting
- > Project numbering and recording

Financial Results

Average recovery rate per hour on 5 contracts completed since training, (with weighted averaging on hours to get a realistic picture) shows that the weighted Average nett profit per man hour increased by €19.37.

The main factors that contributed to the performance improvement were:

- > Participation in the training programme by a large number of the company staff.
- > Shared understanding of the need for the training among staff.

- > Flexibility in the development and implementation of the training programme, the ability to continuously adapt the programme to meet the emerging needs of the participant group.
- > Clear understanding of the objectives / expected outcomes from the training programme, by participants and the trainer.
- > Implementation assistance from the trainer at the clinic training sessions.
- > Implementation of the various processes and procedures discussed and agreed during the training programme.
- > Owner manager has been an active driver in the process.
- > There has been a high level of prioritisation around the implementation of the learning by both the staff and the owner-manager.

The owner-manager assessed that 75% (with 85% confidence, thus giving an overall of 64%) of the improvement was due exclusively to the Training programme. The only other input into improving management and tracking on contracts has been input from a management accountant into developing better financial systems in the business. There have been no other factors that are considered to have impacted on the benefits identified. It was estimated by the owner manager that the inputs from the management accountant may account for up to 25% of the benefits that have been experienced.

Cost of Training Programme

Group Sessions - 5 Sessions x €120 = €600

Clinic Sessions - 4 Sessions x €330 = €1320

Training development time 1.5 hours = €150

Cost of Participation (cost of recovery)

5 days = 40 hours = €4,000

5 days = 40 hours = €1,800

5 days = 40 hours x 5 = 200 hours = €13,000

Mileage for participants = €300

Cost of the Evaluation process = €1,160

Cost of organisation / admin = €135

Total cost of programme = €22,465

Return on Investment

The nett benefit (nett profit per man hour) was €19.37. The benefit attributed to the training programme = 75% at 85% confidence = 64%. Therefore the improvement in nett profit per man hour attributed to training programme = €12.40. Man hours available per year = 9,293 (after holiday, sick days, training time and general down time allowance). Estimated (conservative) fully chargeable hours = 9,293 x 75% = 6,970 hours (allowance of 25% for other down time and wastage).

Total improvement = €12.40 x 6,970 hours = €86,428 nett profit

$$\text{ROI} = \frac{\text{€86,428} - \text{€22,465}}{\text{€22,465}} \times 100\%$$

ROI = 285%

Intangible Benefits

The intangible benefits of the programme were:

- > Improvements in communications generally.
- > Reductions in stress levels for owner manager and staff due to improved information flow and processes and less time wasting.
- > Improved communication between office and site and greater understanding of the roles of others in the business has led to reduction in 'them & us' feelings between office and site and thus greater team working generally.
- > Staff have greater focus on their work and what they have achieved on an ongoing basis.
- > There is a much greater level of sharing of knowledge in the business.
- > Job satisfaction for employees due to greater delegation, better communications, better briefing and planning and confidence in their work.
- > Site staff have greater sense of achievement in their work due to improved planning, delegation and task assignment.
- > Staff have improved assertiveness and communication skills and thus have greater sense of self worth and find their work easier.

- > Improved ownership by staff of their work and role generally.

Enablers and Barriers

The main enablers encountered in the programme evaluation were:

- > Project manager and sponsor working together.
- > Full buy in and support from the owner-manager.
- > Interest in the process by the owner manager.
- > Support from and work undertaken by sponsor.
- > Buy-in gained from 'clinic' training approach which enables greater participation and improved communication of the objectives of the programme and the evaluation approach.
- > Input on questionnaires from owner-manager and staff to ensure that they will be fully understood by all participants.
- > Great support, guidance and assistance from the project consultant.

The main barriers encountered in the programme evaluation were:

- > Significant amount of time required to complete the entire evaluation process.
- > Newness of the approach for the company and company staff.
- > A level of resistance to form filling by staff.
- > Difficulty in getting site staff to complete forms.
- > Time required by project manager and owner-manager in compiling data etc.
- > Unavailability of some of the necessary data in the level of detail necessary for compiling the ROI and assessing financial benefits.

Communications

The company and Skillnets network co-ordinator were keen throughout the project that the main stakeholders were kept informed of progress. This involved:

(i) Participants

- > Ongoing telephone contact between project managers.
- > General updates of whole team at project management clinic sessions.
- > Monthly issues list to be discussed at project management clinic sessions.
- > Ongoing telephone contact between Mark and Team leaders

(ii) Company management

- > Regular progress meetings between project managers and project sponsor.
- > Regular meetings with Consultant, sponsor and project managers.
- > Project Manager (Mark) to update sponsor on a regular bi-weekly basis.

(iii) Skillnets Network

Network co-ordinator met with Project Manager and regularly update overall network at monthly meetings and bi-monthly project updates by email.

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Large Cross Skilling Training Programme Produces Important Benefits

*Brendan Farrell, Declan Harrison
Consultant: Sean O'Sullivan*

Abstract

This study evaluates the impact of a large Cross Skilling Programme carried out as part of a major change initiative moving a manufacturing plant from a single skill operative to a multi skilled team-based process. As well as recording a significant ROI the programme evaluation also recognises that non financial measures can be as important as financial ones and points to the importance of the linkage between the need to improve business performance and the design, delivery and evaluation of training programmes.

Company Background

St. James Gate brewery in Dublin is part of the global Diageo group. It has been in operation for nearly three hundred years. Today it produces kegged stout (Guinness) and ale (Kilkenny) for the island of Ireland, USA, Europe and Japan. It also produces bulk beer for packaging by Irish Bonding Company, Belfast and Runcorn packaging plant in Liverpool.

Diageo is the worlds leading premium Drinks Company. It serves 180 markets world wide and employs 28,000 people. It's four major markets, North America, Great Britain, Ireland and Spain account for nearly 60% of its operating profit. It has a market capitalisation of £28bn with annual revenues of £13bn.

In order to remain competitive key elements of Diageo's strategy is to:

- > Focus on priority brands in its most important markets
- > Leverage its leadership position to secure an advantage and a more efficient and effective route to market

- > Build on its leadership position in marketing execution, social responsibility and consumer insight
- > Accelerate innovation in product, marketing and delivery

St. James Gate brewery employs 278 employees. The brewery competes with other Diageo plants in the group. By 2001 it realised that its cost of production was too high and in order to remain competitive it had to:

- > Improve existing productivity and production levels
- > Improve its performance in costs, quality, customer service and flexibility.

It therefore set out on a major change programme in order to improve its production, packaging and distribution processes. It planned to

- > Introduce shift working over 24 hours per day
- > Outsource utilities and other services
- > Rationalise the number of people working in production and packaging

The challenge was to carry out these changes without loss of production or quality. A partnership approach to work through the business challenges in order to grow the Brewery's business was agreed with unions and staff. The vision was to exceed customer expectations by realising each worker's potential to achieve the highest standards. In practical terms this meant moving from a single skill operative (either mechanical, electrical or operative) to a multi skilled team-based process technician. This would involve extensive retraining and the development of a cohesive and supportive culture within the new teams.

The Cross Skill Training Programme for operatives was therefore one of the key improvement levers and its success was critical for achieving the business targets. A "train the trainers" approach was adopted in order to customise training delivery to new work process and organisation needs, and to the needs of the overall change programme.

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Training Needs Assessment*Benefits to participants*

The training programme was designed to

- > Enable the development of new, flexible team structures having the required skills to carry out tasks competently and successfully.
- > Cross skill individual team members to multi-skilled process technicians in the areas of mechanical, electrical, process and laboratory skills / knowledge.
- > Enable members of each teams to operate on the basis of a "no demarcation" ethos and in a supportive culture

A detailed skills gap analysis was prepared with individual team members and their supervisors. Ninety one team members would be trained and forty five people were selected for "train the trainers" programme.

Benefits to Company

The training programme would enable improved productivity, efficiency and flexibility in the brewing plant without compromising quality.

Training Programme Content and Organisation*Content*

There were three elements to the cross skill programme:

(i) Train the Trainers

As well as selecting and training the 45 people in teaching and instruction methods the trainers also had to deliver cross-skill modules to team members and assess the learning and competency level achieved by each individual. They also had to facilitate the bedding down of team working with a supportive team culture. The goal was to instill a 'what has to be done' attitude rather than 'whose job is it'.

(ii) Train individual Team Members

The goal here was to develop multi skilled process technicians with competence in mechanical, electrical, process and laboratory skills among all team members.

(iii) Implement Cross Skilling in the Work Place.

All training was competency based and each participant was assessed as part of the evaluation

Organisation

The programme and training was organised and delivered by the brewery's Training and Development Manager, technical training co-ordinator and trainers.

- > An external Training Company was engaged to train the trainers.
- > The trainers designed and delivered the course materials and competency test.
- > Team member cross-skill training was delivered in-house by eight trained trainers / assessors. They covered mechanical, electrical, laboratory and process skills areas in the Brewing and Packaging areas
- > There were rostered training days for all teams.
- > Release from shift work was facilitated by having an "extra" shift team.
- > A facilitation team released team members for training in both the Brewing and Packaging plants.

Of the 45 people who underwent the "train the trainers" programme eight were finally chosen to deliver the cross skill training.

The cross skill programme was carried out during 2003 and was attended by 91 team members and 32 Group Leaders (Supervisors) across different departments. The programme was organised over a nine month period into nine separate rostered training days for each team, with practice and assessment post training.

Programme Evaluation

The programme was evaluated using Phillips ROI evaluation process as part of the Skillnets ROI pilot project. This process is outlined in the Appendix - Data Collection Plan.

The Phillips methodology is rigorous and data intensive. It depends for its success on the availability of data at each of the five levels. The evaluation uses performance data before the training programme takes place (baseline data) and compares this to performance data after the programme has taken place (impact

data). The improvement attributed to the training programme is converted to a monetary value and used to calculate the return on investment. Only improvements made within 12 months from conclusion of the training programme are normally taken into account when calculating the return on investment.

Evaluation Tools

The evaluations tools to be used at each level were:

Level 1 Feedback forms immediately after training and planned actions to practice new skills in workplace

Level 2

Performance demonstration and competency assessment for skills attained.

Level 3

Questionnaire for trainees and shift managers

Level 4

- > Site Yield percentage
- > Headcount reduction
- > Conformance to Planned Maintenance

Results of Evaluation

Baseline and impact data were obtained for levels 1, 2 and 3. Business impact data were more problematic. It was not possible to measure the business benefits arising from improvements at individual or team level. Baseline or operational data were not available at these levels. It was therefore decided to measure the benefit at overall production and packaging process level.

It was also decided to focus on cost reduction as the main tangible business benefit. This is a conservative approach and will be discussed again in the conclusions section of this study.

Level 1

- > The Training met participants learning needs with an overall satisfaction rating of 81%
- > Each team member planned to practice skills post training and before practical assessment and sign-off.

Level 2

- > All participants passed the written assessment
- > All participants practised individual tasks and achieved sign-off with assessors on practical demonstration

Level 3

- > Cross-skilling occurred within each team. However, greater cross skilling occurred in the Packaging Dept. because of increased opportunity to use skills
- > Team members would like more time and opportunity to practice the new skills they acquired
- > Fitters and electricians are now working as one unit for problem solving
- > There is greater mutual support within teams,
- > There are no barriers to helping other team members in any activity

Level 4*

- > Headcount (number of employees) reduced by 63
- > Site yield increased from 61.05% to 70.83%
- > Conformance to planned maintenance levels improved:
 - Packaging: from 58% to 86%
 - Brewing: from 14% to 59.5%

The results are summarised in the impact table overleaf:

*These figures are based on only two months comparative data (September and October 04).

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Level	Objectives	Measures/Target	Outcomes
1	Reaction/Satisfaction <ul style="list-style-type: none"> > Outcome of course met participants learning needs > Plan to practice skills post training. 	<ul style="list-style-type: none"> > Greater than 80% overall satisfaction rating with training programme. 	<ul style="list-style-type: none"> > Training met participants learning needs > 81% overall satisfaction rating > Plan to practice skills post training, before practical assessment and sign-off.
2	Learning and knowledge of multi-skilled tasks to facilitate working in the role of Process Technician.	Assessment: <ul style="list-style-type: none"> > Health & Safety 100% > Knowledge and understanding of specific modules in the following areas 60%, Mechanical, Electrical, Process, Laboratory. > Sign-off skills practice on individuals development plan 	<ul style="list-style-type: none"> > All participants passed written assessment > All participants practised individual tasks and achieved sign-off with assessors on practical demonstration
3	Application/Implementation Perform multi-skilled tasks in a process team environment	1. <i>Cross-skill into other roles e.g.</i> <ul style="list-style-type: none"> > Fitters doing electrical work > Electricians doing mechanical work > Operators doing laboratory work > Lab analysts doing process work 2. Joint problem solving e.g. by fitters and electricians 3. Improved teamwork	<ul style="list-style-type: none"> > Cross-skilling is occurring within teams, greater in Packaging Dept. because of increased opportunity to use skills. 32% of time now spent outside of core role > Time and opportunity to use new skills is a significant barrier to practice > Fitters and electricians are now working as one unit for problem solving > 85% increase in joint problem solving > There is greater support within teams, there are no barriers for helping other team members in any activity > 78% improvement in team work

Level	Objectives	Measures/Target	Outcomes
4	<i>Business Impact</i> Improvement in productivity in Brewing and Packaging	<ul style="list-style-type: none"> > Headcount from 278 to 215 > Site yield maintained at 61.05% > Cost Reduction > Reactive and planned maintenance efficiency 	<ul style="list-style-type: none"> > Headcount number reduced by 63 > Site yield increased by 9.78% points > Conformance to planned maintenance levels increased (Packaging by 28% points; Brewing 45.5% points) (only two months comparative data)
5	ROI	Target ROI: 25%	121% (methodology and calculation follow)

Return on Investment

Financial Benefit of Cross Skill Programme

This involves putting a monetary value on the impact data. Because operational data were not available at individual or team levels it was decided in this evaluation to use data at overall process level. The table above shows the performance improvements at level 4 in four areas: headcount reduction, site yield, cost reduction and reactive and planned maintenance efficiency. Normally, in an evaluation, the operational improvements in these areas would be converted to monetary value.

However, in this evaluation the forecasted labour cost reduction over a 12 month period was used. This amounted to €4,705,000; of which 32.26% was attributed to the training programme (inset below the ROI calculation explains how the effects of the training programme were isolated and the 32.26% figure derived)

Therefore the financial benefit of the Cross Skill programme was: €1,517,833

Costs of Training Programme (€)

The main cost elements of the cross skill programme are summarised below

Cost of trainees' time (fully loaded):	€168,502
Back filling for Trainers:	€400,000
Cost of time for Technical Co-ordinator:	€37,500
Cost of Train the Trainer programmes:	€42,058
Cost of external support:	€39,125
Cost of materials / facilities:	€500
Total =	€687,685

Return on Investment Calculation

$$\text{ROI \%} = \frac{\text{€1,517,833} - \text{€687,685}}{\text{€687,685}} = 121\%$$

$$\text{Benefit to Cost Ratio} = \frac{\text{€1,517,833}}{\text{€687,685}} = 2.21$$

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Isolating the Effects of the Training

The cross skill programme was a key enabler for improving the business performance and for the cost reduction that was achieved. However there were also several other factors that contributed to the improvement. These are the main ones:

1. Cross-skill programme enabling a
 - > 'no demarcation' ethos
 - > better team working through a greater understanding among team members of
 - > joint problem solving on plant issues e.g. mechanical and electrical
 - > Enhanced skills of process staff
 - > Increased motivation through development and up skilling for all team members
2. New organisational structure with integrated team system that has a single roster for all team roles.
3. Focus on continuous improvement, individual and team development with performance reviews with all staff.
4. Better team working through:
 - > clarity on roles and responsibilities
 - > better communication through shift meetings, interactive team workshops, team events
5. 24 hour continuous racking in Keg Plant.
6. Redundancy programme

In order to determine the contribution of the training programme to the overall improvement the participants, supervisors and their heads of departments were asked for their assessment. Questionnaires were used for the first two groups, while a focus group approach was used with the heads of department. The results of these assessments are given in table 2.

Table 2: Assessment of cross skill training to overall improvement

Assessment by	Estimate of contribution (%)
1 Participants	47.00
Confidence level	68.60
Probable contribution	32.26
2 Supervisors	45.50
Confidence level	81.75
Probable contribution	37.20
3 Heads of Department	45.00
Confidence level	73.30
Probable contribution	33.00

As the overall improvement programme was wide ranging and complex the degree of conformity between the three groups separate assessments is of particular interest.

For the purpose of calculating the return on investment the lowest assessment of 32.26% was applied to the cost reduction figure.

Intangible Benefits

The return on investment of 121% means that the investment in cross skill training made a significant contribution to improved business performance. In acknowledging this contribution senior management also referred to intangible benefits that were perhaps even more important. They referred to

- (i) success of people working in the brewery in adapting to more competitive business conditions - no demarcation, increased flexibility
- (ii) enhanced reputation of the brewery within the Diageo Group for its ability to improve productivity, quality and flexibility
- (iii) positive, supportive culture that has developed within teams and departments

- (iv) learning embedded in individuals and teams would contribute to the brewery's continued success.
- (v) potential exploitation of surplus capacity in the Keg Plant

Enablers to evaluation

This was the first application of Phillips evaluation methodology in the brewery. The main enablers to its successful conclusion were:

- > Commitment shown by Training Manager and Executive to developing their evaluation capability and applying it in action learning mode to a business relevant training programme
- > Buy-in and high level of response to evaluation tools from participants, supervisors involved in training programme and by heads of department
- > Good evaluation data were available for levels 1 and 2 evaluation purposes
- > Design and application of evaluation tools for each level
- > As this was a pilot programme the external consultant support was important to success

Barriers to evaluation

The main barriers experienced during this evaluation were:

- > Lack of expertise - this was the first ROI evaluation undertaken
- > A plan for evaluating the programme to ROI was not included when the programme was first designed. In particular, the non availability and collection of baseline and impact data at level 4 was problematic
- > The lack of financial expertise was felt at level 4 and level 5 evaluation
- > The overall time to undertake a full evaluation was underestimated

Conclusion

The main benefits of participating in this evaluation project were:

- > Confirmation of cross skill training's positive contribution to brewery's business success (forecast ROI:121% as well as the intangible benefits)
- > Recognition that non financial measures can be as important as financial ones
- > Development of an evaluation capability: (i) process of evaluation (ii) understanding 5 levels of evaluation (iii) data collection needs and tools and (iv) an understanding of how the Phillips evaluation process enables improved business performance.
- > Recognition of the importance of the linkage between the need to improve business performance and the design, delivery and evaluation of training programmes.
- > For evaluation at level 4 there is a need to collect baseline performance data before the training programme begins and performance data (using the same measures) after the programme concludes.
- > The feedback received from participants on the extent of cross skilling and team effectiveness will lead to further performance improvements in the work place.

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Appendix - Data Collection Plan

Level	Objective(s)	Measures/Data /Target	Data Collection Method	Data Sources	Timing	Responsible
1	Reaction/ Satisfaction Outcome of course met participants learning needs Plan to practice Skills post training.	<ul style="list-style-type: none"> > Greater than 80% overall satisfaction rating with training programme. > Develop-ment Plan 	Questionnaire Discussion group De-brief post training	Reaction sheets Development Plan	On the day	Assessors Declan Harrison
2	Learning and knowledge of multi-skilled tasks to facilitate working in the role of Process Technician	Assessment: <ul style="list-style-type: none"> > Health & Safety: 100% > Knowledge and understanding of specific modules in the following areas: 60% <ul style="list-style-type: none"> > Mechanical > Electrical > Process >Laboratory > Sign off skills practice on individuals develop-ment plan 	Assessment of ability to carry out tasks safely Short answer questions: 20% (questionnaire) Skills demonstration: 80% (observation)	Assessment results	Within 2 months of training	Assessors Declan Harrison
3	Application/ Implementation Perform multi-skilled tasks in a process team environment	1. Cross-skill into other roles e.g.: <ul style="list-style-type: none"> > Fitters doing electrical work > Electricians doing mechanical work > Operators doing laboratory work > Lab analysts doing process work 2. Joint problem solving e.g. by fitters and electricians 3. Improved teamwork	For 1 and 2: Feedback from participants Validation from shift managers For 3 Team effectiveness survey	Questionnaire and survey with (i) Shift Managers (ii) Participants	August	Brendan Farrell

Appendix - Data Collection Plan

Level	Objective(s)	Measures/Data /Target	Data Collection Method	Data Sources	Timing	Responsible
4	Business Impact Improvement in productivity in Brewing and Packaging	<ul style="list-style-type: none"> > Headcount from 278 to 215 > Site yield maintained at 61.05% > Profit margin contribution increased > Reactive and planned maintenance efficiency 	Analysis of business performance data and KPI figures	HR/Finance Corporate reporting	30/10/4	Brendan Farrell
5	ROI Target return on investment for training programme is 25%	Costs of training programme and intangible benefits will be available Main challenge will be to isolate the effects of training. Estimates will be obtained from participants, supervisors and division managers				

Glanbia Meats plc

Language Training Programme Delivers Wide Range of Benefits

Mick McHugh

Consultant: Sean O'Sullivan

Abstract

Responding to labour shortages by employing non-national migrant workers provides a range of challenges for booth workers and companies. This study examines a language training programme which, apart from the monetary benefits, has produced significant intangible benefits that make it stand out as a positive investment. It highlights the need for a stronger focus on business benefits in learning needs analysis. It points to the difficulties of evaluating a basic skills programme up to level 5 - ROI - due to problems in identifying and separating data for higher level evaluation.

Company Background

The Glanbia Meats division employs 840 people on four sites in Ireland:

- > Pork processing in Edenderry
- > Pork processing in Roscrea,
- > Head de-boning in Clara
- > Canning in Rooskey.

The core business is pork meat processing from kill through to packaging and sales. The division is part of Glanbia PLC - formed with the take over of Waterford Co Op and Avonmore Dairy - and part of the global Glanbia organisation.

During the boom of the "Celtic Tiger" economy the computer, construction and other "cleaner" sectors took labour away from traditional processing industry such as meat (and food) processing. In 1999 Glanbia Meats experienced severe labour and skill shortages and having exhausted indigenous recruitment strategies, were granted an "exemption" from FAS to embark on an overseas recruitment campaign. Glanbia Meats developed a policy for migrant worker support. English Language training was driven by this policy in order to enable integration of these new recruits into the workforce and into Irish society once the need was highlighted on arrival of the first group.

Training Programme

It was agreed that training would be carried out in participants' own time; that Glanbia Meats would cover all the training and the facility costs with assistance from the South Leinster and Munster Food & Beverage (SLM) Skillnet. Two local trainers were recruited for their sensitivity in working with the migrant community. Some 40 individuals were invited to start and 32 accepted. The programme ran for 12 evening sessions (one each for 3 separate groups, although some attended more than one evening a week). Of these 32, 11 successfully completed the Further Education & Training Awards Council (FETAC) Certification assessment. Others learners improved their language skills to varying degrees.

The main business objectives for this Language Learning Programme were:

- > Improved communications
- > Efficiency in production
- > Efficiency in service functions
- > Improved pig throughput
- > Improved Recruitment and retention
- > Support for workers in line with Glanbia Meats migrant worker policy
- > Integration of these new recruits into the workforce (and into Irish society).

Evaluation of Programme

The data to be collected and the targets to be achieved were identified in consultation with relevant supervisors and Managers in Glanbia and the trainers delivering the programme. Data collection was then planned according to the **Data Collection Plan** contained in the appendix.

The instruments to be used were facilitated questionnaires for evaluation levels one, two and three. The use of facilitation was deemed necessary given the language competency level of the participants. The use of structured interviews (on the basis of the questionnaires) with the participant Supervisors ensured further qualitative data could be gathered which contributed to evaluation level 4 (and 5). More open interviews with other Glanbia Meats

Managers identified other level 4 data and intangible benefits, which in the context of this programme, were expected to outweigh tangible benefits.

The 14 questions at level 1 centred on an understanding of the objectives, their achievement, the delivery methodology and the content and how all of these were received. The target average of 4.5 out of 5 was high but, given the planning, expectations were also high for this level of evaluation.

There were two Questionnaires at levels 2/3. One was directed at participants and the other at their immediate Supervisor. They were also intended as a source for level 4 (and 5) data. The target average of 3.5 was still high but the data being more objective at higher levels this was felt to be a reasonable target.

Finally, open interviews and reference to internal records whether formal or informal were made through the HR Manager to function and strategic managers.

Results

Level 1 - Reaction

The data collected here measured participant reaction and satisfaction with the programme and their intent to use their learning. The target of an average of 4.5 was exceeded at 4.58. This shows that participants felt that the course was well organised and its presentation met their needs.

Level 2 - Learning

The data collected here measured the degree of learning that took place such that participants could immediately apply new Knowledge Skills and attitudes. The results show an average of 3.42-participant; and 3.53 -Supervisor; giving overall average of 3.48, slightly below the target of 3.5. Of the 32 who started, 11 successfully completed the FETAC assessment and will be awarded Certificates.

Participants benefited in the following areas:

- > Written & Spoken Communication
- > Record keeping
- > Work Relationships

Level 3 - Behaviour

The data collected here measured the degree to which the new Knowledge skills and attitude were applied on the job in order to influence business measures. The result of 3.45 was just short of the target of an average of 3.5.

Positive changes in behaviour in the following work areas were noted by participants:

- > Production
- > Health and Safety matters
- > Food Safety and Hygiene

Level 4 - Impact on the organisation

The data collected here measured the change in business measures as a result of the application of new Knowledge skills and attitude learned. Learning English allowed the learners to acquire further information and knowledge that contributed to their improved performance and effectiveness at work.

Four areas were identified where monetary savings could be reliably measured. Areas for production increase were identified but due to an industry anomaly, of limited product availability for processing, and the culture of paying piece-work rather than time on the job, this increase was not fully realised. These savings are quantified as plant running cost savings. Value added processing was achieved by the skill-set of the migrant workers which allowed specialist product production, previously unavailable.

1. One participant is now carrying out a routine task (in addition to her own duties) that used to take up one tenth of QC Supervisor's time. Savings here are calculated on the basis of 1/10 the difference in annual salaries.

2. Recruitment cost per person has been identified; these 11 (and more) have renewed their contract making a saving to the company 50% of which is attributed to the training. The other 50% is attributed to the better lifestyle and earnings available in Ireland in relation to the country of origin. Future recruitment has further been effected with approaches from the larger Hungarian community both in Ireland and in Hungary.

Glanbia Meats plc

3. Typical cost of an accident is €10K. There has been a reduction in accidents of 3 in 2004 and 10% of this reduction is attributed to the training by the HR Manager. The other 90% is attributed to accident prevention strategies employed by Glanbia.

4. A further saving was realised from earlier plant shut down time due to the following time savings annualised :

(a) Time spent on communicating (such as on H&S and other production matters) have been reduced. This has been reduced by an average of 90 minutes for the boning hall staff. Applied to the sample group of 11 workers this results in an annual saving of 756.8 hrs and the freeing up of Supervisors time for higher level work. The times used as a benchmark are taken from the period prior to the arrival of the migrant workers who have additional skills to the indigenous workers.

(b) A 50% improvement was noted in the kill line for one participant (spends half his working week here) of which the Supervisor felt 75% could be attributed directly to the language training. The other 25% he felt was due to proficiency being developed in the use of Glanbia tools. He was 50% confident in his estimate. This resulted in an annual time saving of 165 hrs for this worker.

(c) One participant has reduced the time needed to reach his daily quota by a fifth in the boning hall which reduced his working time by 176 hours a year. The supervisor felt this was due 50% to the language training which speeded up communications. The other 50% he attributed to familiarity with Glanbia tools.

Isolating the Effects of Training

For ROI level evaluation it is necessary to isolate the effects of the training programme. i.e. one needs to list the other factors that may have contributed to performance improvement and justify any percentage allocation of benefits to the training programme. Estimates incorporating confidence level and concurrence of appropriate supervisor or manager was the main tool used to isolate the effects of training as detailed in 4 above. The table provides a summary.

ROI Measure	Authority
Saving of QC's time	Supervisor
Recruitment & retention	HR Manager
Accident prevention	Supervisor
Meetings time savings	Supervisor
Plant down time	Supervisor

Other factors identified which might have had an effect on changes were:

- > The Hawthorne effect, whereby a sample group under study might behave differently because they are under scrutiny.
- > Additional commitment from the learners given the unique nature of their situation of being in a country where a different language was spoken.
- > Personalities/individuals supporting individual learners above normal expectations
- > Streamlining of practices and procedures at Glanbia meats (minimal)
- > Continual customer demands which filter down to operator level.

Return on Investment

Taking the identified tangible data from level 4 and applying Phillips © ROI formula

Training Costs:	In full
Trainers fee	6,700
Additional fee for trainers for evaluation data gathering	450
Cost of Evaluation report	1,050
Release or replacement staff	0
	8,200

Benefits:

Up-skilling savings	1,000
Recruitment retention savings	3,300
Accident savings	3,000
Lower running costs	5,918
Total	€13,218

BCR (Benefit to Cost Ratio)

$$13,218 / 8,200 = 1.61$$

ROI

$$\frac{13,218 - 8,200}{8,200} \times 100 = 61\%$$

Plus the identified time savings for higher level work and other intangible benefits identified in the context of this report and listed in the level 4 evaluation section. The time savings have not facilitated additional production, however they have resulted in savings by allowing the plant to be cleaned and shut down earlier.

Intangible Benefits

As well as the measurable benefits listed above there have been numerous benefits that could not have a monetary value attributed to them at this time.

- > Confidence of employees leading to greater contentment and productivity. Employees have been empowered to go about their business in a more fulfilling way. This has had a noticeable effect on their work output.
- > Citizen development for Glanbia employees, driven by Glanbia Plc and Glanbia Meats HR policies.
- > Profile of Glanbia Meats as a modern responsible employer. This has presented a positive image of the company in Ireland.
- > Knock-on effect for recruitment of other non-indigenous employees. An example of this has been demonstrated in approaches by the wider Hungarian community both in Ireland and in Hungary for employment in Glanbia.

- > Retention of employees. Existing employees have been strongly influenced in their decision to stay by the investment in their development.
- > Career development potential. Employees who have undertaken this training are better able to progress in Glanbia through promotion and further development.
- > Reduced accident risks. Employees are better aware of risks due to their ability to understand written and verbal warnings and some accidents have already been prevented as identified in the ROI.
- > Improved hygiene awareness. Employees are better aware of hygiene requirements and customers are influenced by the fact that cleaning staff have been trained in English language. Evidence for this is cited from inspection reports from USDA auditors.
- > Value added benefits from new skills (such as product preparation) brought to Glanbia Meats which can now be communicated in a meaningful way and lead to the increased knowledge and skill capacity of the Glanbia organisation.

Barriers

The factors that have restricted this impact study were:

- > There was no specific resource allocation for evaluation; as historical practice allowed only lower level evaluation (levels 1 & 2) and its typical 1% cost.
- > There is a lack of confidence in the evaluation of training in general.
- > There is a lack of trust in the ROI model of evaluation and its ability to measure monetary return in real terms.
- > The strategy driven four stage training cycle of Identify need, plan, deliver and evaluate is inappropriately applied with resources targeted at the delivery to the detriment of the other three stages.

Enablers

The factors that have helped to make this impact study a success were:

- > The Individual(s) commitment to training and support for workers, shown by the Glanbia Meats HR Department and the HR manager in particular.
- > The participant(s) personal commitment to learning which was in part driven by a desire to integrate socially into the community and the workplace.
- > The positive corporate action demonstrated by the Glanbia organisation in the development of appropriate and timely policies.
- > The additional (and personal touch) input by the two trainers which bridged further the gap to socialisation, and the success of formal recognition both in achievement and in the presenting of awards.
- > The FETAC Certification procedures focussed the programme on achievable learning objectives which might otherwise have been vague.
- > The Skillnets input of driving this model of evaluation by the support of resource and personnel helped overcome some of the barriers above.

Conclusions

- > The Return On Investment on this programme was 61%
- > Apart from the monetary benefits, there have been significant intangible benefits in this programme that make it stand out as a positive investment.
- > This evaluation has highlighted a need for a stronger focus on business benefits in Glanbia Meats learning needs analysis. Such a focus may reduce the need for precise reports such as this.
- > Equally important to the measured impact of this programme are the processes used in measuring it. Impact of training and learning needs to be embedded over time in other Glanbia Meats processes and strategies.
- > Full evaluation of a basic skills programme is difficult because of the problems in identifying and separating data for higher level evaluation.

Appendix

Glanbia Data Collection Plan

Programme: FETAC English for migrant workers Responsibility: Mick McHugh (for Glanbia)

Level	Objective(s)	Measures /Data	Data Collection Method	Data Sources	Timing	Responsible
1	Reaction/ Satisfaction Satisfaction with objectives and format of programme and an environment conducive to learning	Achievement of 4.5 average score on 14 questions	Skillnets level 1 evaluation form: Facilitated "happy" sheet 5 point scale	Trainers 100% of Participants	June	Trainers/ participants
2	Learning Achievement of FETAC Certificate Change in Knowledge Skills and Attitude (KSA)	FETAC Assessment Achievement of 3.5 in KSA self assessment by Participant & Supervisor	FETAC Assessment Facilitated Skillnets level 2/3 evaluation form Questionnaire	Participants	July	Trainers/ participants
3	Application/Implementation More productive workers as a result of cultural integration	Achievement of 3.5 application self assessment by Participant & Supervisor	Facilitated Skillnets level 2/3 evaluation form Questionnaire Interview with Supervisors/ managers	Supervisors	August	Network Manager Supervisors
4	Business Impact More time for production Production savings Recruitment savings	Documented & anecdotal 1. Upskilling 2. Retention 3. Accident reduction 4. Production costs Isolation of other factors	Interview with Supervisors/ managers	e.g. Contract renewal Records Costs	August	Glanbia record keepers
5	ROI	Comments: It is important to isolate any/all factors, other than the training, that might account for improvements identified If reliable data can be collected to level 4, then the ROI level is easily achievable. There is a lot of work to do to identify, develop and implement this data collection.				

Heineken Ireland Ltd

Analysing the Impact of Implementing a Competency Model Framework

*P.J. Tierney, Ellis Mulcahy
Consultant: Gerry Doyle*

Abstract

This study involves a comprehensive analysis of the training programme designed to support the introduction of a competency model framework throughout all tiers of middle and senior management and attempts to assess the impact on the company's performance of the implementation of the framework. This study is still in progress at the time of going to press.

Company Background

Heineken Ireland is a wholly owned subsidiary of Heineken N.V., the most international brewer in the world, with Heineken beer being available in over 170 countries worldwide. Based in Cork since 1856, the brewery combines a long and proud brewing tradition with the most up to date technology and innovative marketing techniques, and is one of Ireland's fastest growing breweries. The company employs 425 people and the turnover is €311m. The brewery's brand portfolio contains Heineken - Ireland's number 1 selling lager, Murphy's Irish Stout, Amstel, Coors light together with its specialty brands, the Slovakia pilsner namely Zlaty Bazant and the German Weiss beer Paulaner.

The Training Programme

During 2004 Heineken Ireland undertook the complete introduction of a Competency Model Framework to 65 line managers and all senior management staff in the company. The HIL competency model was developed in-house using 8 different competencies with a range of definitions and behavioural anchors defined against the different levels within the company.

The Competency Model Framework was introduced by Heineken worldwide following a detailed needs analysis and a report prepared by a firm of international consultants. The company concluded that in order to deliver on company strategy it was imperative to concentrate on the way in which it did business through competency model development and training.

To introduce the Model the training department were charged with the task of designing and delivering a comprehensive training programme for all managers. The programme objectives were -

To support the achievement of both company and individual success and the future growth of HIL.

Create understanding of the need for competencies and enable managers to use them as a measurement tool.

The programme was delivered by in-house trained facilitators and one external trainer during January, February & June, July 2004. Each session was a one day off site training event using powerpoint, handouts, team workshops, jigsaws, flipcharts, group feedback, case studies, brainstorming, quiz, competency swatches and an online model.

The business results anticipated by the company were identified in advance as:

- > Company Goals and Objectives Achieved
- > Maximised team performance
- > Achieved commitment
- > Timely Execution of Business Plan
- > Developed Understanding of Issues
- > Effective and Change Orientated Working Environment

Evaluation Tools

Level 1 - Reaction Sheets were circulated to participants at end of programme, prior to leaving the site (March & July 2004).

Level 2 - Quiz, Job Analysis, Usage of System, Group Presentations, Jigsaw - all during the training programme (March 2004).

Level 3 - Conduct a Usage Audit of Performance Management System, after the programme was delivered and objectives have been set (July & October 2004) among Participants, Line Managers and reportees.

Level 4 - Analyse company performance and KPI figures. Feedback on Satisfaction/Confidence. Questionnaires for participants, line managers and reportees.

Evaluation Results

Level 1

The overall impression of the training course was very positive. The relevancy of the programme content was rated at 3 out of 4. The training was considered by the participants to have been well thought out and professionally delivered.

Level 2

The usage of the Performance Management system showed an 81% return (Average score achieved of 202 out of a max of 250) against an 80% target.

Level 3-4

Data is currently being collected at these levels

A Focus Group Meeting of Senior Managers is being held to consider the following:

- > Outline of Project & Plan to date
- > Outline need for final questionnaire (level 4)
- > Share topline results under Business Results, challenge and agree conservative figures
- > Heineken Ireland Strategy (Strategy, Competencies, Values, Execution Rewards) estimate % contribution competencies makes to the overall strategy
- > Explain Company Standards for Calculating Overall Costs
- > Further identify other impactors which could have hindered or influenced the training and overall business results

Based on the results of the Focus Group further data collection actions will be implemented.

Heineken Ireland Ltd

Data Collection Plan Heineken Ireland Ltd

Programme: Line Manager Competency Training Responsibility: PJT/EM Date: March-Oct 2004

Level	Objective(s)	Measures/Data /Target	Data Collection Method	Data Sources	Timing	Responsible
1	Reaction/ Satisfaction Create understanding of course material and model.	Pace, approach, style, understanding Expected rating of 4.5 on all above	Questionnaires	All Participants	End of Training Session	Facilitators
2	Learning Understanding and using the model	Understanding the model Expected 80% scoring across all exercises	Observation Jigsaw Scores Case Studies Completion Quiz Results	All Participants	During the training program	Facilitators
3	Application/Implementation Usage of Model in Performance Mgmt System	Competencies Selected Objectives set Development Needs Identified Expected 80% compliance	Auditing PMS	PMS System & Participants	Quarterly thru 2004	EM
4	Business Impact A change in the Way (competency) the Company does business.	100% acceptance/embracing of competencies 100% identified improvements	Questionnaire & Confidence/Satisfaction Survey & Rating to LM's and employees PMS System	Participants & Line Managers All	Quarterly thru 2004	PJ/EM
5	ROI Target of 7.5%	Comments				

Hilton Hotel Dublin

Intangible Benefits As Important as Financial Return

Joanne Mulvey

Consultant: Gerry Doyle

Abstract

In this study a health and safety awareness programme for managers recorded a positive ROI but the company was equally pleased with the intangible benefits identified in the evaluation. The exercise points up the need to plan early for evaluation and ensure the collection of baseline and level1-3 data.

The company applied conservative criteria to arrive at a credible figure for the return on investment.

Company Background

Hilton Dublin is the proud flagship brand of Hilton Hotels Corporation in Ireland. The Hilton brand is the most recognized name in the global lodging industry with 82% brand awareness worldwide. Conrad Hilton purchased his first hotel in Cisco, Texas back in 1919. Since that time the company has grown to over 500 hotels in cities all over the world. "Be My Guest" is still the gracious and warm way the company wants for its guests to feel and is reflected in a 72% overall guest satisfaction rate.

Hilton Dublin Hotel has 189 bedrooms, Waterfront Restaurant, Third Stop Bar and conference and banqueting facilities. The hotel attract business and leisure guests and tour groups from Europe, the USA and further afield as well as a loyal Irish clientele. The Hotels main competitors are the Burlington, Jury's Ballsbridge, Shelbourne, and Mespil Hotels. Hilton Dublin devotes a lot of attention to monitoring customer service through guest comment cards in bedrooms, guest relations manager and a guest relations book where guests can write comments about their visit to the hotel and GSTS reports.

Quality is monitored through mystery guest reports quarterly and test calls in reservations, Conference & Banqueting which happen on a monthly basis. The organisation is continually looking for sales-leads to increase sales and business.

The vision of Hilton UK & Ireland is to be the preferred choice in UK and Ireland hospitality. The four core

values are customers, quality, people and profit. The mission is to optimise Hilton's return of capital employed.

Training Programme

In undertaking the Skillnets pilot project Hilton Dublin first proposed to evaluate a major management development programme which had been completed jointly with its sister hotel in Belfast prior to the commencement of the pilot project. In the event this proved extremely difficult to undertake due to the absence of (a) any baseline data, and (b) data relating to training delivery and application on the job. While it was possible to go back and get some of this data many of the staff involved in the training had transferred abroad or were no longer with the company. This would have served to invalidate the data even if it had been possible to obtain it. Consequently, the company decided not to proceed with the original plan.

Instead a health and safety programme - which was about to begin - was chosen for this analysis. The programme was geared towards supervisory and management staff. 10 staff took part, including managers, chefs and HR department staff.

The objectives of the programme were to:

- > Enable the participants to demonstrate an understanding of the main safety legislation affecting the hotel.
- > Enable participants to motivate their team players in maintaining and progressing the various legal compliance documentation.

The company had identified a need for health and safety (H&S) training for managers to ensure that they can oversee H&S issues in the hotel, guarantee a high standard of health and safety for the protection and safety of guests and staff and ensure that H&S standards at the hotel are maintained to the highest levels.

The programme was delivered over two by an external training provider and through classroom style learning and a test at the end.

Hilton Hotel Dublin

The company identified the follow new skills, procedures, tasks which the trainees would be able to perform as a result of taking part in the training:

- > Awareness of all the do's and don'ts in health & safety.
- > Ability to identify health and safety risks at work.
- > Enable staff to maintain health & safety file standards and provide up to date practices on a monthly basis.
- > Ability to train these standards to all staff within the manager's area of responsibility.
- > Understand how health & safety procedures lead to a more efficient and an organised work place.

The company specified a number of indicators that should be evident in the performance of the managers post training, as follows:

- > Know how to comply with health & safety standards
- > Motivate employees on how they can work together as a team to improve health & safety in our company
- > Increase employee awareness of health & safety issues

In terms of business impact the company wished to see the following changes as a result of the completion of this programme:

- > Improved Health & safety standards throughout the hotel
- > Increased score on the health & safety audit
- > Increased score in health & safety on the balance scorecard
- > Excellent standards in place to meet the requirements of any environmental officer inspection

Evaluation Tools and Results

Level 1 - A standard Reaction Questionnaire was completed by all trainees at the end of the training. This showed an - overall satisfaction rating level of 4.5 out of 5. The target was 4 out of 5.

Level 2 - Measured by use of a test administered by the facilitators at the end of the course. All participants passed.

Level 3 - The following records were monitored for one month after the training and the level of completion of reports and other activities indicated a significant use of the skills learned being applied on the job:

- > Accident reporting
- > Ladder checks
- > PEAR checks
- > Contractors sign in/out
- > Safe systems of work
- > VDU form completion
- > Reporting of near misses
- > Risk assessment form completion
- > Letters for young person at work

Level 4 - Monitoring of Performance Records was used to collect data. This showed the following key performance changes:

Reduction in Reported Accidents.

Reduction from 6 accidents in March, to 1 in April (immediately post training), 5 in May and 4 in August.

Reduced rate of repairs to equipment.

On average there were 8 less equipment repairs required in each of the three months since the training was completed.

Isolating the Effects of the Training

During the evaluation time frame, the only other factor (other than the programme) which could have influenced a change in the business measures outlined above was a Health and Safety Audit which would have had an influence on reaching improved standards with or without the training.

Since there was only one other factor that could have influenced the improved performance (the H&S Audit) the Managers were asked to allocate a percentage to each factor. This resulted, after adjusting for the confidence error of the estimate, in attributing 80% of the impact to the training course.

Level 5 - Return on Investment

The cost of the training was:

Trainee Salaries	€1,600
Food cost	€700
Trainers Flights/Accom/Meals	€780
Total.	€3,080

Benefits

Even though two business impact data items were available for conversion to monetary value (reduced accidents and reduced repairs to equipment) it was decided to use only one in order to show the most conservative estimate of improvement. This was the reduced repairs. The reduction in accidents, which had been quite noticeable in the month immediately following the training - down to just one - had since fluctuated considerably and was therefore not considered reliable enough as an indicator of overall business impact. The average reduction of 8 less repairs per month was projected for a full year and costed using a standard average value for repairs provided by the accounts department. This gave a total annual saving of €9,598.

Thus the following calculations were arrived at-

$$\text{BCR} = \frac{€9598}{€3080} = 3.12$$

$$\text{ROI} = \frac{€6518}{€3080 \times 100} = 212\%$$

Intangible Benefits

- > Less Accidents at work
- > Increase feeling of safety and security at work
- > More motivated at my work practices
- > More confident in my job
- > Improved quality of work
- > Improved confidence in explaining things to staff

Conclusion

Even though the overall cost and financial impact of the training programme were quite modest the exercise provided a valuable capacity building exercise for the internal evaluator which continues to be available to the company. The company places considerable importance on the intangible benefits of the training and believes that the return on expectation and the improvements in morale and motivation will have far more valuable returns in the long-term than the mere financial return. The inability to evaluate the original management development programme points up the need for proper advance planning and effective data gathering on all such programmes if a credible return on investment is to be obtained.

Laepple Ireland Ltd

Analysis of Health and Safety Training Linked to Key Company Objective

Michael Ryan

Consultant: Gerry Doyle

Abstract

This case study examines a major health and safety initiative implemented in conjunction with a company deciding to become self-insured. The case study shows how a control group can be implemented - even on the same site - and also shows the use of trend line analysis where no other factors influence the outcomes from the training. Both these are compared with actual performance data and estimates of training impact provided by trainees and management to provide a very comprehensive and credible analysis.

Company Background

Laepple Ireland Ltd was established in 1974 in Carlow town. The company is a subsidiary of August Laepple GmbH & Co (headquartered in Germany). In Ireland the company builds dies and tools for non-cutting metal forming applications. The die and tool room is the determining factor for the high reputation LÄPPLE enjoys world-wide. For more than 80 years LÄPPLE has specialised in press die and tool making, i.e. (deep) draw dies, flange dies, cutting and trim dies and clinching dies.

Its dies and tools ensure production of body parts such as door panels, bodyside panels, roof panels, hood panels, floor panels and trunk lids in several operations associated with high geometry precision and first-class mating conditions but also of form parts for "white goods", and this many thousand times with the same precision levels always being satisfied. The company's know-how in terms of deep drawing stamping engineering covers everything from the standard deep drawing sheet steel quality over high and highest strength (HSLA) steels, tailored blanks and aluminium through to stainless steel.

There are presently 248 employees in Laepple Carlow. In 2002 due to escalating insurance premiums, an executive decision was taken to set up a Self Insurance System within Laepple. In essence Laepple decided to insure itself against Employers' Liability claims and a specific fund was set aside to deal with any potential claims.

Training Programme

For a Self Insurance System to operate efficiently and effectively it was imperative that the proper foundation stones be put in place. This included management commitment, pro-active safety management strategies such as safe place strategies, safe person strategies, and a positive safety culture and climate. Another key foundation stone was that of inclusivity of all the key stakeholders which are the Employees, Management, Training Department, Occupational Health Unit and the Safety Committee.

The training and development of Safety Committee members was seen as crucial to setting and sustaining high standards on the factory floor in the prevention of accidents.

The role of the Safety Committee is:

- > To review unsafe work practices and conditions
- > To make suggestions on methods of improving Health and Safety Performance
- > To assist in the formation of Health and Safety policies, procedures and rules
- > To promote all aspects of Health and Safety
- > To assist in carrying out Occupational Health and Safety Programmes

The purpose of the training intervention was to develop the core competencies among the Safety Committee members to a level where they could exercise their activities in a competent and value added manner to Laepple as an organisation. This in turn was designed to assist in reducing accidents through prevention, with a consequent reduction in the overall cost of accidents, and promoting a positive safety culture and climate within the organisation.

Safety Committee Training Intervention Programme

Day	Times	Location	Theme
1	9 - 4	Learning Centre	Health & Safety Theory
2	9 - 4	On the Job	Practical Orientation
3	9 - 4	Learning Centre	Health and Safety Theory
4	9 - 4	On the Job	Practical orientation
5	9 - 4	On the Job	Simulation/Theory

The Learning Centre contact days concentrated on transfer of theoretical knowledge. Practical Orientation contact days concentrated on development of knowledge, skills and attitude.

The Training Objectives were as follows:

- › Raise the level of knowledge, skills and attitudes of the safety committee with regard to Health and Safety.
- › Utilise the safety committee as a key driver in Accident Reduction through presentation within Laepple - Target of 25% reduction in reportable accidents.
- › Safety Committee Members to be competent to carry out safety inspections within their own departments.

Trainee Profile

The trainees were on Shift A - Ten Safety Committee Members

A Control Group which did not receive the training were identified on Shift B - also Ten Safety Committee Members:

Table 1: Breakdown of Areas

	Shift A	Shift B
Tool Room	10	10

Table 2: Demographic Breakdown

Group	Male	Female	Age Profile			
			20 - 29	30 - 39	40 - 49	50 - 59
Trained	10	0	0	0	4	6
Control	10	0	0	0	5	5

Table 3: Years of Service with the Company

Trained Group

Employee	No. of Years of Service
1	18
2	18
3	20
4	22
5	23
6	25
7	25
8	28
9	30
10	30
Average	24

Control Group

Employee	No. of Years of Service
1	16
2	19
3	19
4	20
5	20
6	22
7	22
8	23
9	25
10	27
Average	21

Evaluation of the Training Programme

The following were the methods and associated results for the evaluation of the effectiveness of the training programme:

Baseline Data

Prior to the training a Pre-Training Intervention Questionnaire was distributed to the trainees. This included 26 questions covering areas such as - definition of health and safety terms, understanding of responsibilities, preventability of accidents, role of safety committee members, accident investigation techniques, accident statistics on site, safety inspection procedures, legislation, health and fitness.

Participants were asked to rate themselves on a 1-5 scale regarding safety standards in their own department, their own knowledge of Health and Safety Standards, and the level of communication on Health and Safety for their department. They were also asked to identify how to improve Health and Safety Standards in their Department.

Level 1 - Reaction and Planned Action

At the end of the training programme participants completed a questionnaire which examined their reaction to the training, understanding of the course objectives, whether these objectives were met, and matters to do with the delivery of the training, competence of the trainer, the training environment and relevance of the content.

There was a 100% response to the questionnaire since it was collected at the end of the course. The results showed a high level of satisfaction with the training with an overall rating of 4.0 out 5.0. All trainees stated their intention of using what they had learned on the course.

Level 2 - Learning

A number of methods were used to determine if the trainees had actually learned what had been taught on the course. These included observations by the safety officer, a written test, self reports and an evaluation of reports submitted by participants in relation to safety activities and incidents. All of these verified that there was a satisfactory level of learning. In the test an average score of 4.2 out of 5.0 was achieved relating to the acquisition of knowledge/skills.

Level 3 - Application on the Job

The primary method for determining application on the job was monitoring the use of Safety Inspection Reports (SIRs) along with observation of the activities of the trainees and the operation of the safety committee. Analysis of the SIRs showed that problem areas identified were being acted upon quicker and rectified within a shorter period of time. It also showed a greater awareness by the participants of risk areas and an increased willingness to identify these.

The five Team Leaders, when asked to rate the percentage increase in the Health and Safety of the trainees gave an average rating of 74%.

When asked if the trainees had been willing to use those skills and knowledge learned on the course the average response received was 4.0 out of 5.0 for strongly agreeing that the skills and knowledge were being utilised by the trainees. When asked if the training was good value for the company the average rating was 4.3 out of 5.0 for strongly agreeing that it was good value for the company.

Barriers and Enablers to Application

Participants were given a separate questionnaire to identify barriers and enablers to implementation. Six of the ten trainees identified the main factors as not having enough time to apply the skills. The full list of options were -

- > I have had no opportunity to use the skills.
- > I have not had enough time to apply the skills.
- > My work environment does not support the use of these skills/behaviours.
- > My supervisor does not support this type of programme.
- > This material does not apply to my job situation.

100% of trainees stated that the main enabler was the support of the HSE department. Seven respondents indicated regular refresher training on safety inspections as the key way to continue improvements obtained from the training.

Level 4 - Business Results

A number of techniques were used to identify the business results. The primary one of these was the use of a control group but a trend line analysis and estimates of participants were also employed so as to cross-check results.

(a) Control Group:

These groups were composed as identically as possible - all were safety committee members, had similar service with the company and carried out identical duties. Both groups were subject to the same environmental influences i.e. location, equipment, work practices. Since the two groups worked on separate shifts there was virtually no communication or contact between them.

The following tables show the data relating to days lost due to accidents for each of the groups both before and after the training:

Table 4: Composition of the Two Groups

Two Groups	
Group A	Group B
Training Group	Control Group - did not attend training
10 Employees	10 Employees
Average years of service with Laepple = 21	Average years of service with Laepple = 24
Nature of work - Tool Making	Nature of work - Tool Making

Table 5: 2003 Time lost Accidents, Group A (the trained group)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
6	8	9	17	18	14	5	8	6	4	7	9	111
12 Month Average for Accidents												9.25

Table 6: 2003 Time lost Accidents, Group B (the control group)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2	6	4	3	2	4	9	10	7	6	10	11	74
12 Month Average for Accidents												6.16

Table 7: 2003 Total Lost Time Accidents for Both Groups

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
8	14	13	20	20	18	14	18	13	10	17	20	185

Table 8: 2004 Accidents recorded after training of Group A

Number of Accidents							
Month	April	May	June	July	August	Sep	Average
Group A	2	3	3	2	2	2	2.33
Group B	4	9	13	6	4	8	7.33

Table 9: Comparison of Accidents Group A and Group B

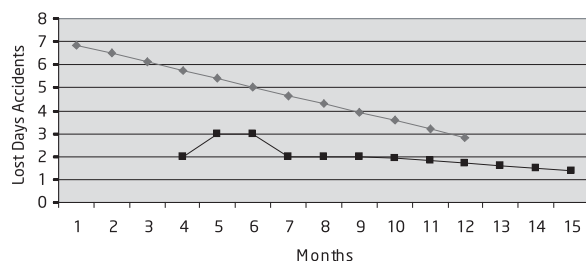
Accident Comparison	April 2003 to September 2003	April 2004 to September 2004
Group A	68	14
Group B	35	44

In 2004, between April and September, after the training was complete, a total of 14 accidents were reported for Group A at a total cost of €22,400 (see standard value below). In the same period in 2004 a total of 44 accidents were reported for the control group - Group B at a total cost of €70,400. This gives a saving of €48,000 all of which can be attributed to the training of group A as there were no other influencing factors that might have impacted on the change.

(b) Trend Line Analysis

Based on the data in Tables 5 and 8 we can identify the trend in respect of accidents for the trained group. The total of accidents for this group in 2003 was 111 but as can be seen from table 5 the accident trend had been steadily decreasing during the second half of 2003. Projecting the 2003 trend (using a standard linear trend formula) throughout the whole of 2004 Group A would have recorded a total of 58 accidents in that year. However, as the trend line analysis in Fig 1 shows the actual number of recorded accidents following training of Group A only during the six month period April-September 2004 (Table 8) was 14. Taking that 6 month trend and projecting it for a further 6 months we obtain a projected 12 month total of accidents for Group A, after training, of 24 - a reduction of 34 accidents. Translated to monetary terms this would return savings of €54,795 in a full year based on the company's standard value for lost time due to accidents.

Laepple Linear Trend Line - Accidents



■ Group A Lost time accidents projected for all of 2004 based on actual for 2003.

■ Group A 6 months actual figures 2004 (Apr-Sep) - after training - projected for a further six months.

Month No 1 = January 2004

(c) Participant and Management Estimates

Even though it wasn't necessary given to that actual data as well as the two most credible means of identifying business results were available it was decided, for the benefit of the exercise, to also use participant and Team Leader estimates of impact. Overall rating for whether the training improved job safety performance and Department Safety Record was 4.4 out of 5.0. Participants estimated that their job performance and productivity had improved by an average of 72% since they completed the training. Participants estimated that, on average, 79.5% of this improvement was due to the training and they expressed themselves, on average, 82% confident in that answer. 4.5 out of 5.0 stated that the training was a worthwhile investment in their career and 4.2 that the training was a worthwhile investment for the company.

Isolating the Effects of Training

The primary method for isolating the effects of the training was the use of a control group (see above). In addition, it was also considered desirable to apply a trend line analysis (see above) to cross-check the results of the control group technique for fear that there may have been some contamination of the control group. In both cases it was established that no other factors had a bearing on the end result apart from the training carried out and the procedures implemented as a result of the training. Finally, participant estimates were used as a further exercise. These showed (see above) that, after applying for confidence level in the estimate, 65% of the improvement in their performance was due to the training. Since both management and trainees also identified that there was no other substantial factor to influence the actual result (number of accidents), apart from the training, it was decided to use the control group result in the final calculations.

Converting Data to Monetary Value

The total cost of the training was €19,210. The standard value which the company applies for the average total cost per accident is €1,600.

In arriving at data to calculate an ROI it was decided to use only the most conservative and credible output from the two techniques applied - the six month only actual saving recorded from the control group

technique (see above). This showed that in the six months immediately following the training there were 14 accidents recorded for Group A against 44 for Group B. This was a saving of €48,000 all of which can be attributed to the training of group A as there were no other influencing factors that might have impacted on the change. (Note: It would have been acceptable to project these figures forward for a further six months to obtain a full 12 month figure, as per the trend line analysis above, but the company decided to use only the actual six month figures in this calculation.)

Level 5 - Return on Investment

This gives an ROI as follows:

$$\text{BCR} = \frac{€48,000}{€19,210} = 2.5$$

$$\text{Return on Investment} = \frac{(48,000 - 19,210)}{€19,210} \times 100 = 150\%$$

Conclusion

This Skillnets pilot project provided a very comprehensive and credible set of procedures for determining the impact of the health and safety training programme on both the trainees and on the actual financial impact. The main enablers were the support of the management team, the commitment of the trainees and their willingness to apply what was learnt on the job. In terms of conducting the evaluation the support of Skillnets and the help of the consultant were crucially important in building capacity with the company to be able to conduct this advanced level of programme evaluation.

Appendix*Laepple Data Collection Plan**Program: Safety Awareness**Responsibility: Michael Ryan**Date: 01/05/04*

Level	Objective(s)	Measures/Data /Target	Data Collection Method	Data Sources	Timing	Responsible
1	Reaction / Satisfaction/Planned Action Measure participants' satisfaction with programme	Average Scoring from Questionnaires 4.0 out of 5.0 on usefulness	Reaction Questionnaires	Participants, Facilitators	End of each Training Session	-
2	Learning Acquisition of skills/ Knowledge	Average Scoring from Questionnaires, 4.2 out of 5.0 for learning acquisition, checklist By Facilitators, Self Reports and Observations, Reports	Questionnaire Tests, Case Studies, Quiz results	Participants Facilitators	During programme	-
3	Application / Implementation Use of skills Frequency of skill use Identify barriers and behaviour change	Observations Corrective Actions Scoring from Questionnaires	Safety Inspections Follow up sessions Supervisor Questionnaires Self Questionnaires	Participants HSE Department Team Leaders and Supervisors	After each Inspection and communication and Again after 4 weeks	-
4	Business Impact Accident Reduction by 20 %	Accident Statistics Accident Costs	Follow up Sessions Safety Inspections Accident Investigations Accident Records Control Group	Follow up Questionnaires Accident Records HR Dept Finance Dept Participants	3 Month and 6 Month	-
5	ROI 25%					

Lionbridge Technologies (veritest)

Evaluation of Management Training Builds Capacity in Local Skillnet

Jimmy Nolan

Consultant: Sean O'Sullivan

Abstract

This study of a management and supervisory skills training programme in a software localisation and testing company shows that it is possible to calculate a return on investment in the absence of baseline data. There are examples of innovative approaches to data collection including the use of checklists relating to application of training on the job. Completion of the study has built capacity to carry out full level 5 evaluations within the company and the North Mayo Skillnet.

Company Profile

Lionbridge Technologies, Inc. (NASDAQ: LIOX) is a provider of globalization and testing services. Lionbridge combines global onshore, near-shore and offshore resources with proven program management methodologies to serve as an outsource partner throughout a client's product and content lifecycle - from development to globalization, testing and maintenance. Global organizations in all industries rely on Lionbridge services to increase international market share, speed adoption of global products and content, and enhance their return on enterprise applications and IT system investments. Based in Waltham, Mass., USA Lionbridge maintains 20 solution centres in 10 countries and provides services under the Lionbridge and VeriTest brands. This evaluation study was based at the Lionbridge centre in Ballina, Co Mayo. To learn more, visit <http://www.lionbridge.com>

Business Unit Profile

As the testing division of Lionbridge Technologies, called VeriTest, certifies information technology platforms and applications for and on behalf of global IT organisations. Since 1987, VeriTest has been helping the technology industry build and ship thousands of quality products, from CPU chips to network management software. In January 1999, VeriTest and Lionbridge Technologies combined to create the world's first independent global network for outsourced product testing and compliance programs. The combination provides IT companies with a single global partner for outsourcing specialized technical

services associated with global product releases, including software localisation, software quality, e-testing, and product certification. To learn more, visit <http://www.veritest.com>

Business Needs Being Addressed by Training Programme

As the business grows and closer contact is needed between the functional execution of projects and the interaction level with teams and customers, expertise is needed at the Software Test Engineer level to supervise and manage the day to day tasks of the projects. With this in mind the key objectives were:

1. To equip Software Test Engineers with the Management and Supervisory knowledge and skills necessary to support their Business Unit in the day to day managing of projects, project teams and customer interactions.
2. To increase customer confidence on projects where these individuals have worked through increasing project ratings.
3. To invest into identified individuals who are key to the successfully execution of customer projects.

Training Programme

Programme Outline

The Management and Supervisory Skills program was designed to enable supervisors and managers who may have had no formal management education, or may be new to the discipline of managing people, to formally develop their confidence and competence. Using the FETAC Vocational Awards framework allowed participants to gain knowledge and practice in supervisory and management techniques whilst gaining a national qualification for their efforts.

Built into the programme was a great deal of flexibility allowing the participants to determine the module(s) they wished to undertake. In this way they were able to select the modules which closely related to their development needs. The programme used a combination of tutored workshops followed by, internally assessed, work-based practical experience.

The following learning modules were selected with regard to the appropriateness of their content and their alignment with each other. The three modules

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independently provided a rich source of learning but when woven together provided a systemic learning experience for line-managers. Each learning module enabled the participant to take a step-by-step approach towards their own development goals, thereby allowing each of them to build their competence and confidence on an ongoing basis.

Therefore, the Foundation Programme consisting of all three learning modules provided participants with a unique learning experience which provided them with the knowledge and skills to manage people and resources more effectively and efficiently in today's business environment. However, the programme was also designed to enable participants to undertake one or two of the modules. This was particularly practical for line-managers who have attended similar training courses in the past.

The Three Core-learning Modules

1. The Role and Function of First-line Management leading to FETAC Level 3 in Business Management (1 award)
2. Communication Skills leading to FETAC Level 3 In Communication Skills (1 award)
3. Managing People and Resources leading to FETAC in Supervisory / Management Skills (1 award)

Programme Objectives

To meet the business needs by:

- > Level 1: Critically examining the individuals own style of supervision and management and identify areas for change / improvement so that we can measure improvement through the training.
- > Level 2: Examine the implications of organisational structure and culture in organisations so that they will have the exposure to different organisational structures
- > Level 2: Explore new theories in relation to the application of supervisory and management skills in today's context, so that we can equip the trainees to handle situations they will find themselves in.

- > Level 3: Enhance communication skills to support and guide staff in a responsible manner so that they can communicate effectively with their teams and clients.
- > Level 3: Implement learning at and apply knowledge to work situations so that they can be more effective in their roles.
- > Level 4 & 5: Reduce the current level of support needed from their Project Managers by 25% by acquiring tools and techniques in diagnosing and implementing supervisory and management solutions to problems and issues.

Programme Participation

A combination of five individuals from a Software Test Engineer or Software Engineer level from 3 different Business Units took part in the programme.

Expected Benefits of the Programme

To the Company:

- > Increased ability to manage the day to day activity of projects
- > Impact: Increased productivity.
- > Less supervision needed from a Project Manager
- > Impact : Increased Planning effectiveness from Project Managers
- > Increased interaction and communication with peer customers or peer customer representatives
- > Impact: Raised profile with customer
- > More motivated and valuable employees
- > Impact: Better working environment

To the Trainees:

- > Increase in their skill level and ability to handle management situations resulting in more opportunities for the trainees.
- > Enhanced opportunity for different types of work and or travel to customer or other Lionbridge sites.
- > FETAC (NCVA) Certification at Level 3.
- > Understanding of the complexities in making management decisions resulting in less support time being required from Project Managers.

- > Increase in their skill set levels, leading to improved opportunities for promotion and advancement.

Delivery of Training Programme

Programme delivery was carried out (by an external training provider) in a new and challenging manner enabling delegates to gain deeper insights and awareness into the area of supervision and management than could be accomplished with traditional education. Participants were encouraged to "learn to learn" through facilitated workshops, projects and observed application in the workplace. This format encouraged participants to question and reflect upon their learning both and make personal changes in their supervisory/management style.

The programme consisted of:

- > 16 X days of learning workshops
- > Appropriate Observation and feedback by internal assessor

Training Venue

As this programme involved participants from 3 different companies in the North Mayo Skillnet each company had the opportunity to host the training sessions, and on alternate occasions a training room was booked in a local hotel. The concept behind having some of the training on the different company sites was to give each trainee a broader view of management than that of their own organisation.

Company Responsibility for the Training Programme

The Training Manager was responsible for any practicalities to do with the training programme but all training content was delivered by an external training provider. The Training Manager was involved in the procurement process of the training providers and was also an internal assessor for the products of the programme.

Managers of the participants were notified of the course and the course objectives and outlines. The company Sponsors choose the participants for the course. The participant's direct managers were involved in the assessment and evaluation of programme.

Evaluation of the Training

Purpose of the Evaluation

The purpose of this evaluation was to determine what the Return On Investment was on this particular programme and from this to decide if it was beneficial to continue with a second programme of this type for others in the organisation.

Evaluation Tools and Measures

Level 1

- > Post Course Evaluation Sheet average rating of 4 out of 5 across the participants
- > Post Course Rating Sheet of the Participants from the Training Provider

Objective: 80% Attendance Level at Training days

Level 2

- > Certification from FETAC (NCVA) Level 3 overall Grade of 75% or higher.
- > Completion of all assignments, projects and checklists, items include; these will be evaluated by either the Course Tutor and/or an Internal Assessor within VeriTest (Line Manager/Training Manager) and an External FETAC Assessor

Module 1- Role & Function of a Manager

- > Assignment
- > Project
- > Checklist

Module 2 - Communication Skills

- > CV
- > CV Interview
- > Video CV
- > Formal Letter
- > Group Interaction
- > Development Plan
- > Critique
- > Case Study
- > Oral Presentation
- > Oral Exercise
- > Technical Presentation
- > Checklist

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Module 3 - Managing People & Resources

- > Assignment
- > Checklist

Objective: Completion of all relevant documents, video and audio tapes.

Level 3

- > Sign off of completed Checklists by respective Managers
- > Evaluation form completed by the Manager on the level of the participants change of behaviour in areas of Understanding different Styles of Management, Communication and Managing Resources
- > Take on leading roles in projects which they are involved.
- > Volunteer for travel (assignment at other VeriTest locations) and customer experience opportunities.

Level 4

- > Increased Customer satisfaction through Customer Ratings on projects where the participants have a key role.
- > Decreased cost in hiring, agency fees etc.
- > Increase in the participant's team ranking.

Data Collection*Level 1*

- > Data was collected after programme completion but before final assessment of the participants work by the FETAC (NCVA) external assessor.
- > Data was collected from the participants and from the Training Provider.
- > The data was collected by means of course evaluation forms, attendance records and ratings forms please see the section on "Evaluation of the Training Programme" level 1.

Level 2

- > Data was collected during and after the programme as each activity is completed, submitted and graded by the training provider and/or the internal assessors.
- > Data came from the Training provider and the Internal Assessors in the form of a grade for each activity completed which will be rolled into an overall grade.
- > Data was collected by means of assessment by the Course Tutor and/or an Internal Assessor within VeriTest (Line Manager/Training Manager) and an External FETAC Assessor.

Level 3

- > Data was collected during and after the programme
- > Data came from the participants supervisors/managers, the training manager, training provider and accrediting body, in this case FETAC (NCVA)
- > Data was collected by means of signed of checklists, evaluation forms completed by the Manager on the level of the participants change of behaviour in areas of Understanding different Styles of Management, Communication and Managing Resources and FETAC (NCVA) grades.

Level 4

- > Data was collected during and after the programme
- > Data came from Customers, participants direct and Business Unit Managers and the Human Resources Office.
- > Participants completed Training Assessment questionnaire.
- > Data was collected in the form of Customer Ratings Forms, Team Ranking Matrix and from Performance Review Forms.

Baseline Data

Due to the fact that the programme had already begun before the assessment started, no conclusive baseline data was collected. In order to gain some evidence of the increase in performance gained from the training a questionnaire was distributed to the individuals involved. 4 of the 5 individuals completed and returned the questionnaires; the remaining individual had since left the company to work for a customer of Lionbridge.

Impact of the Training

Level 1: The Training Itself

The overall rating for the training when averaged out over the 4 attendees from whom data was collected was 5.15 out of a possible 6. The objective at the start of the program was to gain an average rating of 4 out of 5 which would translates to 4.8 out of 6. This outcome surpassed the objective hoped for at level 1 evaluation.

Level 2: After the Training

The overall rating for knowledge learned from training which was then remembered and used after the training when averaged out over the 4 attendees from whom data was collected was 5 out of a possible 6.

Level 3: Job Impact

The overall rating for the impact on the individual's job was averaged at 4.5 and participants returned an average of 4.75 in relation to being more effective in their job since the training. Participants overall were using 52.5% of the learning on the job.

As part of the analysis of the impact of the training on the participants role, a checklist was developed and signed off by each individuals manager, outlining there abilities on the skills which needed to be demonstrated in an on the job context. Each module had a checklist which had to be completed by the participants stating how they were able to apply the learning, this was then verified by their direct manager and signed off.

Level 4: Business Impact

The data collection plan presented during initial stages of the evaluation outlined the intention to measure business impact by:

- > Increased Customer satisfaction through Customer Ratings on projects where the participants have a key role.
- > Decreased cost in hiring, agency fees etc.
- > Increase in the participant's team ranking.
- > Decrease in project manager's support hours of 15%

However, the absence of verifiable performance data meant that a different approach was used for ROI purposes. This involved obtaining an overall rating for the impact of the training on the individual's performance through a questionnaire. Based on the response, which included the application of a statistical confidence level variant, the average increase in productivity was assessed by the participants at 18%. Managers' estimate of the improvement was 10%. Due to the lack of insufficient metrics to further qualify this increase in productivity the 10% figure was used in the ROI calculation.

Intangible Benefits form Training Programme

- > Increase in the respect level of the team towards the participants
- > Increased trust in the participants ability from their managers, promotion, status within team etc.
- > Better customer responsiveness
- > Increased participant's motivation based on company's investment in his development
- > Increased ability to handle internal/external management situations
- > Higher profile of Training and Development throughout Lionbridge

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Return on Investment*Monetary Value of Training Programme (3 individuals)*

The method of calculating ROI was based on the value added by the participants to VeriTest. As a minimum each participant adds a monetary amount equivalent to his fully loaded salary to VeriTest. The increase in their competence, as a result of the training course, can increase this contribution. Although the participant feedback led to an estimated 18% increase in (productivity) value added due to the training, the participant's managers, due to the lack of baseline data, were not convinced that this was the case. In order to continue with the ROI calculation it was agreed that an increase in (production) productivity of 10% was acceptable based on the increase in skills attested to by the participants managers documented in the checklists. It was calculated that this amounted to €17,797.50.

Costs of Training Programme (5 individuals)

Course Design & Development	€450.00*
Sub. Total	€450.00
Participants Salary	€7,272.72
Course Tutor	€3,279.67*
Materials	€142.00
Administration	€90.00
Facilities	€120.00
Sub. Total	€10,904.39
Evaluators Salary	€1,960.00
Materials & Supplies	€100.00
Administration	€50.00
Sub. Total	€2,110.00
Total	€13,464.39

*These costs already take account of the training grant received from Skillnets

Return on Investment Calculation

$$\text{ROI} = \frac{\text{Benefits} - \text{Costs}}{\text{Costs}} \times 100\%$$

$$\text{ROI} = \frac{€17,797.50 - €13,464.39}{€13,464.39} \times 100\%$$

$$\text{ROI} = 32\%$$

Enablers, Barriers

The main enablers for attempting this evaluation has been the openness of Lionbridge's management to get involved in the process of learning ROI fundamentals and principles, the willingness of Skillnets to support such an initiative and the support given by the Consultancy team in guiding the participants through the learning process.

The main barriers were from the data collection side:

- > Due to the lack of soft skill performance metrics
- > The fact that the programme selected had commenced before deciding to evaluate it there was a lack of baseline performance data.

This caused most difficulty when trying to effectively decide what was the overall percentage increase in performance due to the training.

If we were to evaluate more programmes or courses at this level then the objectives, metrics for measurement and performance levels of those metrics before training commenced would need to be available to carry out a complete and valuable ROI assessment calculation.

Conclusions

The main conclusions are as follows:

1. Clear objectives and measurement metrics and levels need to be identified and agreed before training commences.
2. Each participant on a programme or course should have their knowledge and experience documented and agreed in line with these metrics before training.
3. A system must be put in place to collect the relevant metric data before, during and after the training.

Although this evaluation of the programme has demonstrated a positive ROI factor it has been hampered by the lack of baseline data for the participants. ROI calculation is not a difficult concept to grasp but the application of the ROI model has to be inline with relevant systems to collect the data required, especially in areas where the training concentrates on skills which are support based rather than production based.

The overall benefits to the participant, Lionbridge and the North Mayo Skillnet

"I would now feel comfortable under the right circumstances, having an effective system to collect and assess performance data both prior to and post training and feel equipped to carry out ROI calculations on training programmes implemented within my own and the North Mayo Skillnet. The benefits to both Lionbridge and the North Mayo Skillnet are a greater understanding of the ROI process, the importance of the integrity of the data within this process and the complexity of collecting the data and the relevant times. I would also be in a position to define objectives and measurement metrics and build systems which would allow for the collection of baseline data based on the type of course or program to be evaluated."

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Appendix*Lionbridge Data Collection Plan**Programme: Mgt + Supervisory Skills. Responsibility: Jimmy Nolan Date: 28th May 2004*

Level	Objective(s)	Measures/Data /Target	Data Collection Method	Data Sources	Timing	Responsible
1	Reaction/ Satisfaction Positive Reaction Recommended Improvements Comments	Average rating of 4.0 or higher from a scale of 1 -5.	Ratings Sheet	Participants on the training Course	End of Course. After external exam	Training Manager
2	Learning Demonstration of Skills in controlled environment	75% or better overall score for each participant from FETAC	Assignments Projects Portfolio of Evidence	Participants Internal/External Assessors Facilitator	During and at end	Training Manager Facilitator
3	Application Implementation Demonstrated Use of skills within their teams Level of use of Skill	70% of activities covered in the course descriptor can be demonstrated and signed off on by the participants manager.	Checklists which have been completed by the participants and signed by the participants manager	Participants Managers	At the end of each module	Training Manager Managers Facilitators
4	Business Impact (Project Mgt time saving) Increased productivity on projects, customer care and recruitment	- Increased Customer satisfaction through Customer Ratings on projects where the participants have a key role. - Decreased cost in hiring, agency fees. - Increase in the participant's team ranking. - Decrease in project manager's support hours of 15%	Questionnaire Feedback	Participants, Participants Managers	At the end of the Program	Training Manager Project Managers Finance
5	ROI Target 25%	Comments: Increase in participants value added will be used for ROI calculation Baseline performance or productivity data is not available Objectives were not set clearly enough before training started Concrete performance data of impact was difficult to attain				

Masterchefs

Analysing the Hidden Impact of Financial Awareness Training

Emer Fennell

Consultant: Eoghan O'Grady

Abstract

Apart from the skills obtained; the measureable impact of a programme such as this one, to raise the awareness and understanding of staff so that they can see the impact of their actions and those of their teams in financial terms, can be quite difficult to identify. This case study shows how a meticulous approach in the planning and execution of both the programme and the evaluation study can deliver the required results.

Company Background

Masterchefs is Ireland's leading and largest corporate and event caterer. It has a proud history of providing a quality food and beverage service to the country's leading corporate, cultural and sporting events since the company's incorporation in 1989. The business objective at the outset was to establish a quality food and beverage catering company dedicated to providing a quality product and service to clients. This market has grown quickly since the inception of Masterchefs, as the concept of client entertainment at sporting and cultural events grew, which led to the development of the corporate catering sector in addition to the traditional public catering requirement. The corporate and event catering market is valued in excess of €40 million, of which the Masterchefs Hospitality Group has a 50% market share.

The services provided by Masterchefs Hospitality are: event management, conference management, total venue management, total client management, corporate hospitality, kitchen design and planning, consultancy and budget management. Masterchefs Hospitality contracts include Leopardstown Racecourse, Curragh Racecourse, Punchestown Racecourse, Kilbeggan Racecourse, the Irish Open Golf Championship, the National Showcentre, O Reilly Hall, UCD, Dublin Castle Conference Centre, the Royal Hospital Kilmainham, the Royal College of Surgeons, and Powerscourt House, to name but a few. Other clients include: Anglo Irish Bank, An Post, Aras an Uachtarain, Bank of Ireland, Deloitte & Touche, Department of an Taoiseach, Department of Foreign

Affairs, ESB, Eircom, Independent Newspapers, KPMG, Jefferson Smurfitt Group and Siemens International.

Pre-Training Programme

The Hospitality Management Skillnet is an industry led training initiative funded by the Department of Enterprise and Employment and promoted by the Irish Hotel and Catering Institute (IHCI). Following extensive research undertaken by the Tourism research Centre of the Dublin Institute of Technology and the Goldsmith Fitzgerald Partnership, funding was awarded to facilitate training to Industry. This training programme was titled the 'Hospitality Management Competency Model' and encompasses nine courses in the nine key competencies required for effective management: teamwork, leading for results, effective communication, customer service focus, planning and organizing, problem solving, strategic thinking, enthusiasm and financial awareness. During July 2004, Masterchefs Hospitality staff participated in the Financial Awareness training course.

Training Programme

The aims of the training course is 'to increase awareness of the financial impact of one's actions and the actions of the team; to help managers meet targets, control costs, find effective ways of managing the business, plan and assign budgets and targets and forecast future demands and service levels'.

The training objectives were:

- > Understand the principles of accountancy and how to apply them through learning to interpret in a meaningful way the balance sheet, profit and loss statement and cash flow statement
- > Apply, monitor and respond to the key performance indicators necessary to effectively manage the business in terms of Profitability, Liquidity and Efficiency
- > Understand stock control issues and why both positive and negative variances need to be investigated
- > Understand the link between profitability and costs and the controls required to ensure budgets and forecasts are adhered to.

Masterchefs

- > Learn how to break down finances for others, establish monthly targets and communicate performance and the necessary actions required
- > Learn how to identify the work processes in the participant's work area and how to find a quantifiable way to measure each of them
- > Learn how to take the initiative to find out how profits could be improved and how to act on this.
- > Understand the principles of evaluating expenditure and investment appraisal
- > Effectively carry out financial budgets and forecasts.

The course content comprised:

- > The Profit & Loss Statement
- > Accounts as a Management Tool
- > Feasibility Measurement
- > Pricing
- > Managing Costs
- > Analysing Accounts

The programme was delivered over a two day period using a combination of classroom type lectures and practical demonstrations and exercises. There was a one week period between each session during which the participants were required to carry out particular tasks including the application of various procedures taught during Day 1.

Pre. Level 1

Training Needs Analysis

A document was circulated by the Hospitality Management Skillnet to the participants prior to the programme which invited them to identify 1) what types of financial statements they used most in their job; 2) what aspects of financial management did they feel needed training in; and 3) any additional comments that might help with the customization of the training to the participant.

Skills Check

A skills check sheet was used to gauge participant self assessment of their own skill level prior to attending the training event. It contained 9 statements and the

participant had to tick their skill level from a choice of 5 levels of knowledge/skills. Each of the statements was closely linked to and derived from the course objectives. Analysis of the data collected shows that the participants average self assessment of their skill level was 50% prior to the training event. The participant's supervisors were also asked to complete this skill sheet i.e. state their view on the participant's level of awareness. Interestingly the supervisors considered the participants to have an average skill level of 38% prior to the training.

Level 1 Reaction / Satisfaction

(i) Evaluation Form

Reaction data was collected at the end of the training event using a standard evaluation form. This focused on issues such as presentation of the training event, delivery method, course content and relevance and trainer skills. Overall the trainee's reaction was very positive which is reflected in the analysis of these scores, which showed an 71% average composite satisfaction rating.

Level 2 Learning

(i) Skill Check

The skill check sheet used prior to the training event was revisited to try to capture the participants own assessment of whether their skill level had changed if at all following the training event. The results of the analysis of the skill check sheets post training showed an average self assessment of 70% i.e. the participants felt their skill levels had increased by 20%. The supervisors also completed the post training skill check form on the participants. They considered the participant's average skill level post course to be 50% - an increase of 12% which is considered disappointing and has prompted careful consideration as to whether this training programme should be maintained / continued in its current format.

(ii) Estimation of the Knowledge Acquisition and Retention

A level 2 questionnaire measured knowledge acquisition and retention. The average score across the six participants in relation to knowledge acquisition was 67%. This appears to contradict the score above in relation to improvement in skill levels i.e. 20%. This is not contradictory and in fact serves to illustrate the distinction between skill and knowledge! There is

clearly a distinction between conceptual awareness and technical skills. With regard to retention of that learnt, the participants felt on average that they had retained 61% of that taught. Ideally this should have been measured via a post course assessment rather than via participant estimation. This will be incorporated into future Level 2 analyses.

Level 3 Application/Implementation

(i) Participant Questionnaire

To determine whether the participants felt they had applied the knowledge and skills learned a questionnaire was used. It was completed 12 weeks after the training event. This questionnaire enquired regarding the extent to which they had been able to apply what they had learnt to their job. The average composite score was 29%. This is a disappointing figure and clearly identifies the importance of more careful customization of the training and / or provision of ability to apply that learnt.

This low figure had been anticipated and therefore an additional question was included i.e. the participants were asked to identify in order of importance those barriers to the implementation of that learnt. Three of the six participants said the fact that the course was not directly relevant to their job was the main barrier. Two of the six identified 'not enough interest from their work colleagues and one participant identified 'not enough support from my superior'. Closer analysis of the responses to this question clearly illustrates that the barriers and their relative importance varied from across locations and job descriptions. This is worthy of much closer consideration by Masterchefs ahead of delivery of any future programmes.

(ii) Supervisor Questionnaire

Staff were observed by their department supervisor both prior to and after the training event and the supervisors were then asked the same question as above i.e. 'to what extent has the new knowledge and skills been applied by the participants to their job. The average composite score was 24%. This figure confirms the viewpoint of the participants and strengthens the case for more careful consideration of the training programme.

Level 4 Business Impact

(i) Performance Improvement - participant's view

This was ascertained via one key question i.e. 'estimate how much your job performance and productivity has improved since you completed this training?'. The average composite score was 25%.

(ii) Performance Improvement - supervisor's view

This was ascertained via one key question i.e. 'estimate how much the job performance and productivity of the participants has improved since they completed this training?'. The average composite score was 17%.

(iii) Business Impact Measure

For the purposes of this ROI evaluation a decision was made to focus on just one business impact measure i.e. number of invoice errors. This is a very appropriate business impact measure for two reasons: first the training programme was closely concerned with facilitating a reduction in such errors; and such errors represent a significant yet avoidable cost to Masterchefs - in terms of reputation, customer goodwill, time, delayed payment and monetary compensation. The latter three costs were considered for the purposes of this ROI. In the three month period prior to the training at the end of June / beginning of July i.e. April, May and June, the number of invoicing errors was 16 out of a total of 1148 invoices issued or 1.4%. For the three month period post training i.e. July, August and September, the number of invoicing errors was 12 out of a total of 1607 or .75%.

Level 5 ROI

(i) Isolating the Effects of the Training

This was ascertained via one question asked of the participants and their supervisors i.e. to what extent is the improvement a direct result of the training? In hindsight a second question might have been included i.e. 'if you answered other than 100% to the above question, identify those other factors that contributed to the improvement in your performance?' This would provide information on those other factors that could be utilized for strategic purposes. Further it might incline the respondents to consider their answer to the former question more carefully. The average composite response of the participants was 31%. The average composite response of the supervisors was 43%. The respective confidence levels were 47% (participants)

and 40% (supervisors) respectively.

(ii) Costs of the Training

The cost of the training (fully costed) was €13,340.

(iii) Cost of an Invoicing Error

The average cost of an invoicing error is calculated as €57. This was arrived through discussion with supervisors and managers and with key input from the financial controller. It is the aggregate cost of accounts, sales and operations time + stationary and postage + cost of delayed payment based on current interest rates.

(iv) Reduction in Invoice Error Costs

The average number of invoicing errors per annum prior to the training was 64 @ €57 each i.e. €3648. The average number of invoicing errors per annum post training is 48 @ €57 i.e. €2736. This represented a saving of €912. However factoring in the total number of invoices (trend line analysis - assuming that the 1.4% invoice error rate would have held post training) we arrive at an expected saving of 10.5 invoices or €2394 calculated over an annual period. (1.4% of 1607 = 22.5 errors; 22.5 errors minus 12 errors is 10.5 errors; 10.5 X €57 = €598.50 X 4 quarters = €2394).

The net contribution of the training to the increase in revenue was as a direct result of the training as estimated by the participants was 47% of 31% (the statistical confidence level adjustment) which equals 15%. The supervisors gave a higher estimate of 43% of which they were 40% confident, and this equals a 17% contribution of training to the improvement in performance. The average them i.e. 16% is used for evaluating the ROI.

Therefore the ROI is calculated as follows:

16% of €2394 = €383.04;

€383.04 minus €13340 = €-12,956.96;

€-12,956.96 divided by 13,340 = -0.97

-0.97 multiplied by 100 = -97%%

ROI = -97%

Novartis Ringaskiddy Ltd

Leadership Development Programme Provides Fertile Ground for Evaluation

William Herlihy

Consultant: Gerry Doyle

Abstract

The Leadership Development Programme was completed for some months prior to the commencement of the evaluation but it was imperative for the company to assess whether the programme had been a worthwhile investment. This case study points up the difficulties of conducting a full ROI evaluation of a management training programme in such a situation and in the absence of an effective needs analysis or adequate baseline data. It shows that not only can a complete study be carried out but the results can be quite far reaching.

Company Background

Novartis is a multi-national corporation (headquartered at Basle in Switzerland) manufacturing active ingredients and final drug substances for a wide variety of products. The plant at Ringaskiddy, Co Cork, which implemented the training programme is situated within a cluster of pharmaceutical companies in the Cork region and employs 520. The key challenges facing the company are increasing its market share and maintaining competitiveness in a very competitive marketplace. The Irish manufacturing plant faces increased competitive pressures from other plants owned by the corporation overseas.

Training Programme

Senior company management had identified a number of areas where the performance of Supervisors and Group Leaders could be improved. These Supervisors and Group Leaders (GLs) are first-line managers who play a key role in the effective operation of the plant through leading teams in different departments. All these Supervisors and GLs are promoted 'from the ranks' and while some have long service with the company, the majority are in their late twenties, early thirties and are more recently promoted. Management had identified that the Supervisors and GLs needed to take more ownership of their jobs, exercise responsibility and be better at making decisions rather than passing problems up the line, lead change rather than respond to it, manage people better, and, improve both their personal and team motivation levels.

The plant was under increasing work pressure and management felt that an urgent response by way of training was necessary. Discussion at management level achieved a needs definition and the HR department went about identifying a training provider to develop a programme to respond to these needs. The company was assured by the training provider who was eventually chosen that the programme offered would work with the Group Leaders, both to further refine their needs at individual and team level and then to provide an effective training response to those needs. The training provider had a high level of credibility in providing this type of leadership programme and the company decided to go ahead

The programme was carried out from the end of 2001 to the end of 2002 and was attended by 32 Supervisors and Group Leaders across different departments. The three phase programme was delivered as a package by the external trainer and covered a wide range of supervisor/team leader competencies. The initial classroom training was followed-up with one-to-one coaching sessions with some of the Supervisors and GLs this was left to the discretion of the participants.

The programme outlined a range of skill levels it hoped the participants would achieve. However, there was no structured system for monitoring the achievement of these targets, apart from self-reporting by the participants and observation by the trainer during the subsequent follow-up one-to-one coaching sessions (where these took place). In addition the skills identified were generic such as: "approaching things more proactively - looking ahead and outside my own area" and were not linked to company-specific job performance or team performance targets. No business measures were identified which would be impacted by the programme.

Evaluation Planning

The decision to undertake an evaluation of this programme was taken some time after it had been completed. The catalyst for this decision came from Skillnets - an Irish government-industry led body dedicated to increasing the range, scope and quality of training in Irish enterprises. Skillnets had identified the need for better training evaluation among Irish companies and initiated a pilot project to test the

Phillips ROI methodology in Irish firms. It commissioned the Impact Measurement Centre (IMC) to deliver the pilot. Led by its managing partner, Gerry Doyle, IMC identified 18 companies who would test the Phillips model. One of these was the subject of this case study.

Even though the training programme had ended the company was keen to have it evaluated because (a) it had entailed significant cost, (b) it had been targeted at a crucial segment of the workforce and its success should have had a major impact on the company's strategic objectives, and (c) it had a high visibility in the plant and had become something of a talking point. Another factor was the need to know how well the programme had worked in light of a proposal to run similar programmes in the future.

Evaluation Process

One of the major challenges of conducting an ex-post facto evaluation is the availability of credible baseline data. Also, a comprehensive needs analysis is a vital feature of any programme that is intended to be evaluated to Level 5 ROI. In this case neither of these was adequate. Nonetheless, due to a pressing need on the part of company management to find out if this programme had been worth the expense, especially since other similar programmes were contemplated, it was decided to make an attempt at a full ROI evaluation.

Evaluation Tools

Since no data had been collected at level 1 and 2 during programme delivery it was decided to issue a comprehensive anonymous questionnaire to all participants to collect data at levels 1, 2 and 3, and 4 together. Considerable efforts were made by the company's training officer to gather in the questionnaires and he succeeded in getting 84% returned.

At Level 4 it was first decided to request senior management to identify the areas that might usefully be examined to determine a business impact resulting from the training. These included data on absenteeism, loss time due to accidents, turnover, unit productivity, etc. A Focus Group of Managers was held to complete a detailed review of the programme impact and, in addition, the trainees were asked certain questions

relating to business results in the questionnaire.

Reaction to the Training

Obviously it was difficult to assess reaction/satisfaction levels such a long period of time after the training and it was decided to confine questions to three areas: was the training at the right level for the skills and knowledge for the trainees, was it delivered in a professional and competent manner, were the objectives clear to the trainees beforehand and overall was the training considered by the trainees to have been beneficial. The results showed that while the training was delivered in a professional and competent manner was at the right level for them, and overall the training was seen by them as beneficial, there was a lack of clarity as to training objectives beforehand. This finding was to have important implications later.

Learning

Assessing learning after the event was equally challenging and again it was decided to focus on two specific areas of the training curriculum and ask the trainees to rate to what extent the training had helped them to build self-esteem and develop a personal vision and goals. The rating of 3.5 and 3.6 respectively was not as high as might have been hoped for but an additional general statement "I learned new knowledge and skills from the training" received an average rating of 4.0 which was sufficient to conclude that a reasonable level of learning had occurred.

Application on the Job

Assessment of application of the training on the job was carried out in three ways. Firstly, the participants were asked to rate the following statements (average results in brackets):

- > I have been able to apply what I learned on the training to my job (3.9)
- > I have been able to retain most of the skills/knowledge that I learned on the course (3.8)
- > I have been willing to use most of the skills/knowledge that I learned on the course (4.4)

In addition those who availed of the follow-up coaching and mentoring reported an average of 4.2 beneficial rating.

Second, the trainees were given a list of competencies which were extrapolated from the training programme curriculum and asked to rate the extent to which they were using these skills since the training (average rating in brackets):

- > Since the training, I am consistently achieving targets (3.9)
- > Since the training, I am better at anticipating and preventing problems (3.9)
- > Since the training, I approach things more proactively - looking ahead and outside my own area (4.2)
- > Since the training, the people I lead need less monitoring and direction (3.7)
- > Since the training, there is much more teamwork among supervisors/managers (3.1)
- > Since the training, I take more initiatives to improve performance in my area (4.0)
- > Since the training, I see our customers as being directly impacted by my performance (3.9)
- > Since the training, I have a strong sense of personal responsibility for making things happen and leading change/performance improvement. (4.3)

The participants were also asked what percent of new knowledge and skills learned from the training did they estimate to have directly applied to their job and the average result was 47%.

Trainees reported a strong sense of personal responsibility and other improvements in their approach to the job, as an impact of the training but equally reported a low level of improved teamwork. Less than half what was learned was applied to the job. In answers to open-ended questions the participants indicated that this could be accounted for by the fact that the contents were not all directly job-related.

Third, the managers were asked in a focus group to estimate the percentage increase in knowledge/skills resulting from the training and the managers gave an average estimate of 24% - half that of the trainees.

Business Results

Both the participants (by way of questionnaires) and the managers in a focus group were asked to estimate how much job performance and productivity had improved since the training. The participants gave a 37% improvement while the managers estimated an 11% improvement. They were then asked to estimate how much of the improvement was a direct result of the and this time the participants estimate was significantly less than that of the managers at 11%, while the managers said that 17% was due to the training. Both were asked to apply a level of confidence in their answers - the participants, on average, were 85% confident while the managers were 60% confident. This allowed the company to estimate the net improvement as a direct result of the training, as estimated by the participants to be 9% and by the managers as 10%.

In reaching their estimate of the impact of the training on increased productivity, the managers identified the following factors that influenced productivity changes during the same period:

- > Transparency - Feedback systems on performance levels.
- > Site supervisor meetings.
- > Better cohesion between departments/shifts.
- > Focus on performance management.
- > Additional support to supervisors.
- > Personnel changes at department level (could work both ways during change over period).
- > Competition in the QA department.
- > Increased production pressures.

However, after considering the impact of each of these factors the managers were satisfied to remain with their original estimate of the impact of training.

The training officer then began the process of identifying financial data which could be used to arrive at a figure for return on investment. Four data items were identified: absenteeism, lost time due to accidents, out of specification and out of expectation data. Since there was only an indirect correlation between absenteeism and lost time due to accidents

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and the training these data items were not converted to monetary value for the purpose of arriving at the return on investment result. They are however, recorded under non-financial benefits of the training.

During complex manufacturing operations involving production of regulated products, such as in the case of pharmaceuticals, there are occasional deviations from the validated process.

These are manifested in two ways.

Out of expectation (OOE)

OOE's are test results that deviate from normal expectation e.g. loss on drying (LOD) of a product. The specification is <5% of residual solvent, typical results are between 2 and 3%. 4.5% would be an OOE where the batch is within specification but if action is not taken the next batch could be an out of specification (OOS).

Out of Specification

There is a major difference between an OOE and an OOS. The OOE is relatively inexpensive considering the cost of the analysts time and the lost time in production.

The OOS is very expensive since it results in the batch being reprocessed which typically results in a loss of between 10 and 15% of the batch during reprocessing.

These "variances" may influence the quality and composition of product test samples sent to the quality control laboratory, resulting in sample failures or "Out of Specification (OOS)" incidents. Thus variance and OOS are closely related phenomena, and must be reported, documented in detail, and archived for audits per FDA regulations. This is an expensive process and any reduction in OOS will result in major savings.

In the twelve month period immediately following the training the costs associated with OOS incidents dropped by €684,829. In the same period costs associated with investigation of Out of Expectation incidents reduced by €21,555. This gave total savings in the period of €706,384.

Costs of Training

The following is a table of the fully loaded costs of the training:

Trainer (External)	€100,000
Training Room rental in Hotel	€495.00
Equipment Rental	€510
Lunch/Coffee	€1,940.00
Group Leaders fully loaded cost for three days	€6,272.00
Total:	€109,217

ROI

The company decided to accept the lowest average estimate of the net benefits attributable to the training (the participants estimate) of 9% €706,384 = €63,575.

$$\text{BCR} = \frac{€63,575}{€109,217} = 0.58$$

$$\text{ROI} = \frac{€63,575 - €109,217}{€109,217.00} = -42\%$$

Non Financial Benefits

Despite the negative ROI the evaluation process identified a number of areas where the training had a positive impact though these were not converted to monetary values: increased morale, increased customer satisfaction, decreased production times, saving in lost time due to accidents, reduced absenteeism and, increased quality.

Furthermore the participants gave an average rating of 4.1 to the statement that the training was a worthwhile investment in their career development. 86% of the participants felt the training was a worthwhile investment for the company while 76% of managers felt it had been worthwhile.

Communicating the Results

The evaluation study was initially presented to the head of the human relations department and later to all department heads. The challenges for such a study at such a remove from the training delivery were noted and the company has tended to view the study more by way of an exploration of what a comprehensive ROI analysis can reveal rather than especially important in its own right.

Conclusions

The negative ROI supported the general view within the company that the training had not realised the potential which it had to bring about the expected change, but not for the reason supposed - that the training itself had been poorly delivered. By collecting data at all levels it was possible to find out why the training had not delivered on its promise.

The level 1 and 2 data (though gathered some time after the training) pointed to a generally satisfactory training exercise in which the participants had learned new skills and knowledge. In addition the follow-up coaching had been very beneficial to those who had availed of it. The level 3 data showed that only between a quarter or less than half of what had been learned had been applied on the job. This seems to have resulted from a number of factors including: poor linking of job related needs to training, lack of support to implement new skills, and lack of opportunity to implement new skills. It was clear from the Focus Group of managers that they did not feel part of the process and they admitted that they had not been as supportive as they could have been in the implementation stage.

This information allowed management to proceed with implementing further leadership focused training for Group Leaders. However, the process has now been strengthened following a managerial review based on this ROI analysis and a number of improvements have been implemented at the design and delivery stage of future programmes, including -

- > Comprehensive needs analysis.
- > Training linked to actual job situation.
- > Better buy-in by trainees and their superiors.
- > Support follow-up systems in place.
- > Impact to be determined before training.
- > Training to have clear and measurable ROI targets.
- > Trainees to have personal performance targets linked to training.
- > Managers to be involved at all stages of training design, implementation and follow-up.

Despite the negative ROI there was agreement that

- > Most trainees obtained benefit from their participation.
- > The training was well conducted.
- > The coaching was particularly helpful for those who used it.
- > There were a number of important intangible benefits the effect of which should not be underestimated.

Pat the Baker

Impact of a Company-Wide Health and Safety Training Programme

*Terry Hughes, Margaret O'Brien
Consultant: Eoghan O'Grady*

Abstract

A large company-wide health and safety training programme is analysed in this case study. The programme has been delivered on a phased basis to a multi-lingual and multi-national workforce over almost a year and the impact on the trainees, company operations and business results is analysed. A final ROI must await the completion of the programme.

Company Information

Pat the Baker was established in 1953 as a small family bakery in Granard, Co. Longford. Since then Pat the Baker has developed into the largest supplier to the Irish bread market. This expansion was facilitated by a major expansion and automation of the Granard plant in 1987 and again in 1992. Further Pat the Baker extended its operations throughout all 32 counties, increased its range of products and improved further its distribution system so as to ensure fresh product delivery to customers every day. Pat the Baker currently employs over 400 staff - a four-fold increase in staff since 1980. Pat the Baker regularly receives professional recognition from its peers in the industry and has won numerous awards for excellence in baking, retaining in February 2005 the Masters Bakers Perpetual Challenge Cup. In May 2004, the company was accredited Excellence Through People and is at presently working towards EFSIS accreditation. Given this success and its programme for continuous improvement, Pat the Baker believes it is ideally positioned for further expansion during the years ahead.

Pre. Training Programme

It is a legal responsibility of the company to implement a Manual Handling Training Programme in line with Health, Safety and Welfare at Work legislative requirements. It should also be pointed out that it is a requirement per our employee's contracts that they avoid poor Manual Handling procedures and identify risks and hazards. Following a training needs analysis within the Granard Bakery in June 2003, it became clear that the company needed to train a senior manager in the Manual Handling practices and

assessment. The Dispatch Manager Kevin Dardis was identified and agreed to attend a 3-day manual handling training course entitled 'Trainers and Assessors Course in Manual Handling'. This course was organized and funded by the BME Skillnet. Upon successful completion of this course, and attendant certification, Kevin confirmed the presence of gaps in the provision and practice of manual handling techniques in the Granard Bakery. Kevin subsequently devised a customized Manual Handling Training Programme for Pat the Baker. The intention is that this programme be delivered to all c. 400 Pat the Baker staff in the Granard HQ and in all seven national depots across the country. Given the multinational character of the workforce, the decision was made to translate the training materials into the five other languages namely Bulgarian, Polish, Russian, Latvian and Lithuanian.

Training Programme

The aim of the training course is 'to promote safe work practice in regard to manual handling'.

The training objective was the 'successful demonstration and continuing practice of safe manual handling techniques by all staff'. The course content comprised

- > Law,
- > Anatomy,
- > Fitness/Flexibility,
- > Ergonomics,
- > 8 principles of correct lifting

The programme was delivered over a two hour period using a combination of classroom type lectures and practical demonstrations.

All 400 Pat the Baker staff will be trained. During the lifetime of the Skillnets Project 100 staff across the five functional areas (departments) i.e. Production, Packaging, Dispatch, Hygiene and Accounts of the company were trained.

Level 1 Reaction / Satisfaction

(i) Evaluation Form

Reaction data was collected at the end of the training event using a standard evaluation form. This focused on issues such as presentation of the training event, delivery method, course content and relevance and trainer skills. Overall the trainee's reaction was very positive which is reflected in the analysis of these scores, which showed an 82% average composite satisfaction rating.

Level 2 Learning

(i) Practical Trainee Demonstrations

All participants successfully demonstrated correct manual handling procedures when required to do so during the training programme.

(ii) Post Training Retention Test

All participants were interviewed and tested by the two ROI evaluators 8 weeks after completion of the training programme. This was a very useful exercise for several reasons. In particular, it emphasized the concern and commitment of Pat the Baker to measure the extent to which the manual handling practices had been retained and were being implemented. This reinforced the message that employees were expected to continue to apply the best manual handling practices. The average composite score in the revision test was 88%.

Level 3 Application/Implementation

(i) Participant Questionnaire

To determine whether the participants felt they had applied the knowledge and skills learned a questionnaire was used. It was completed 12 weeks after the training event. This questionnaire enquired regarding the extent to which the training had helped the participants perform the manual handling aspects of their job and to what extent they had improved.. Again the findings was varied e.g. 2% felt their performance had not improved while 12% of participants felt they had improved by 100%. The average composite score was 66%.

(ii) Observation

Staff were observed by their department supervisor both prior to and after the training event. However these observations were not linked to set criteria nor formally recorded. This would have involved additional

effort and we felt that our application / implementation measures were sufficiently rigorous without this formal assessment. This said, Pat the Baker are introducing a formal performance appraisal process in 2005 and it is envisaged that adherence to correct manual handling procedures will be included as a performance criterion / key performance indicator. This will involve formal recording of performance in this regard.

(iii) Focus Group

On 27 August two weeks after the completion of the training of 100 Granard personnel, a focus group was carried out with five supervisors, one from each of the five departments in Pat the Baker. This focus group was chaired by Eoghan O' Grady ROI Project Consultant. The consultant had requested this breakdown i.e. one supervisor per department and had also stated a preference for supervisors who were first particularly au fait with the training programme and its application and second who would be sufficiently expressive/ gregarious. It was agreed that Terence G. Hughes HR Manager would attend in an observer capacity - as he would likely be the chair of future focus group facilitated evaluations and might learn via observation. The focus group commenced at 2.10 and ended at 3.40.

Name	Position
Pat	Supervisor - Production
Damien	Supervisor - Packaging
Shane	Supervisor - Dispatch
Judy	Supervisor - Hygiene
Debbie	Supervisor - Accounting

The focus group was concerned with gathering information on:

- > Job impact
- > Application of learned skills and knowledge
- > Barriers to implementation
- > Enablers for implementation
- > Estimated improvements to job performance

Pat the Baker

The key findings of the focus group are as follows. Participants (trainees) are more likely to take the training seriously if they know an ROI on the training, involving their input, will take place. Participants felt that cross department composition of each training group was beneficial as it provided an opportunity to 'get to know' other members of staff outside of their own department. This had been the case in most of the training sessions. They saw the fact that the training provider was an internal Pat the Baker employee as an advantage. Kevin Dardis was more aware of current practices re. the Pat the Baker SCM system generally and the manual handling practices specifically than would an external training provider. Further a view was expressed that the more closely a training programme is customized to the requirements of the company the more successful it will be.

It is easier to get new employees to adhere to appropriate manual handling techniques than longer tenure employees because of the impact of habit i.e. employees become accustomed to lifting in a particular way and it is difficult to change their behaviour. One of the supervisors commented on the lack of language skills of the participants and saw this as a barrier to effective training of the staff. However, the consultant pointed out that the training materials had been translated into the participant's native language.

The other supervisors had been aware of this and saw it as a necessary response to an obvious barrier to training transfer. The timing of the training sessions might have taken the shift work pattern into consideration more carefully. It was difficult for someone coming off a shift e.g. a night shift to maintain the necessary energy levels for really effective training outcomes. None of the participants saw any real benefit in 'refresher courses'. On either bought into the training or one did not. The key determinant of application of that learnt was reinforcement by supervisors of the techniques through setting example and constant reminders.

Level 4 Business Impact*(i) Isolating the Effects of the Training*

The responses of the participants to the question to what extent is the improvement a direct result of the training varied e.g. 2 participants said the improvement was not due to the training (these two respondents had previously answered that their performance had not improved as a result of the training) and 17 participants considered the improvement to be exclusively due to the training. The average score was 59%.

(ii) Business Impact Measures

At Level 4, the two main drivers of this ROI project in Pat the Baker i.e. Terence G. Hughes and Margaret O'Brien in consultation with their consultant identified a number of areas that could be examined to determine a business impact. These areas are:

- > Reduction in accidents
- > Reduction in absenteeism (ability to attend as distinct from motivation to attend i.e. certified sick leave due to manual handling caused injury)
- > Reduction in overtime
- > Reduction in insurance premiums.

ROI To be continued ...

Given Pat the Baker's preference that the ROI be measured over a reasonable period post the training programme and in particular that the impact of the training on the key business impact measure above i.e. insurance premiums will not be known until April 2005, Pat the Baker is not in a position to continue this analysis to Level 5 until May 2005.

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