AN EVALUATION FRAMEWORK FOR TRAINING: A CASE STUDY IN THE NORTHEAST OF SCOTLAND

Mohamed S. Abdel-Wahab[1], David R. Moore[2], David Gibbons-Woods[3], Gemma Kearny[4] and Tracy Pirie[5]

[1,2] *The Scott Sutherland School of Architecture and the Built Environment, The Robert Gordon University, Garthdee road, Aberdeen, AB10 7QB, Scotland.*
[3,4,5] *Aberdeen Business School, The Robert Gordon University, Garthdee road, Aberdeen, AB10 7QB, Scotland.*

The promotion of the value of training amongst SMEs is a challenging task. The cost associated with training as well as the time taken-out for attending courses are often seen as key barriers for SMEs participation in training. In 2008, the European Social Fund (ESF) provided training grants for SMEs, regardless of their type of activity, in Aberdeenshire to promote participation in training. The training grants are used to develop and deliver a series of short training courses that are aimed at addressing SMEs training needs. This paper sets out an evaluation framework for the training offered (as a result of the grants) in light of the Return-On-Investment (ROI) methodology. The evaluation of training will address levels 1 and 2 out of the five levels in the ROI methodology, namely: perceived value of the course and learning achieved as a result of attending the course. A questionnaire was designed and tested in order to collect data at levels 1 and 2. However, it is envisaged that evaluation at levels 3-5 (results in terms of business performance and ROI) will require the tracking of participants through a 'unique identifier' in order to establish the actual contribution of the training courses to a business. It is argued that the adoption of a structured approach for the evaluation of training, namely ROI methodology, is paramount if SMEs are to conceive the impact of training. It is concluded that for SMEs to participate in training, there should be a focus on providing evidence on its potential value and relevance to their business activity. Until this happens, the traditionally low level of participation in training by SMEs will continue, irrespective of it being offered for free through training grants.

Keywords: case study, evaluation, ROI methodology, training grants.

INTRODUCTION

Training activity is often regarded as a key supporting function for businesses. Training can support a business to: pursue workplace change, implement new technology and comply with quality assurance standards (Smith and Hayton, 1999). Furthermore, it can also help a business to: meet its future skills needs and address skills shortages (e.g. through providing apprenticeships); comply with legislation such as health and safety; and improve business performance, such as productivity (Abdel-Wahab *et al.*, 2008a). Not only does training support business activity, but also it is believed to have wider benefits to the economy.

[1] m.s.abdel-wahab@rgu.ac.uk

Abdel-Wahab, M.S., Moore, D.R., Gibbons-Woods, D., Kearny, G. and Pirie, T. (2009) An evaluation framework for training: A case study in the northeast of Scotland. *In:* Dainty, A. (Ed) *Procs 25th Annual ARCOM Conference,* 7-9 September 2009, Nottingham, UK, Association of Researchers in Construction Management, 627-34.

It is claimed that an increase in training activity in the UK economy by 5 per cent could lead to an increase in productivity by 4 per cent and thus boosting GDP by £40 billion (SSDA, 2005). Moreover, Universities Scotland (2009) contended that raising skills levels through an increase in training is essential for the Scottish economy. Whilst training is regarded as both important to the economy and businesses, Scottish businesses continue to struggle to recruit appropriately skilled staff and around two in every five employees in Scotland receives off-the-job training arranged by their employer (Scottish Employers Skills Survey, 2008). Recent data also shows that on average (between 2001 and 2008) 28.6% of people working full-time in Aberdeenshire participated in training activity as opposed to 31.3% for all Scotland (Future Skills Scotland, 2009). Clearly, the level of training activity in Aberdeenshire could be improved in order to catch-up with the rest of Scotland.

Small-Medium sized Enterprises (SMEs) are a significant contributor to the employment level and economy in both Scotland and the UK. According to most recent SME statistics (2007), SMEs account for 99.9 per cent of all enterprises and for more than half of the employment (59.2 per cent) and turnover (51.5 per cent) in the UK. The picture is similar in Scotland where SMEs account for 60% of employment with Small companies (employing 0-49 employees) accounting for nearly 50% of employment in the whole Scottish economy. As such, SME statistics underscore the contribution of SMEs to the Scottish economy and hence provide a clear justification for targeting the support of training, through the ESF training grants, to SMEs.

However, SMEs are often reluctant to participate in training activities due to time and resource constraints. This is complicated by the fact that SMEs predominantly do not have a formal HR function as found in larger companies. The small size of a company conditions its level of training activity. Another fundamental barrier to the participation of SMEs in training is uncertainty in relation to the Return-On-Investment (ROI) in training. Wall and Wood (2005) argued that whilst the support and promotion of training activities is intuitively appealing, there remains a lack of understanding as to the true contribution of training to business performance. Evidence for the relationship between training and financial performance is sketchy and does not go beyond reporting positive association between participation in training and companies' financial performance (Fleetwood and Hesketh, 2006). Such evidence does not show how much profitable companies invest in training, or what type of training activities they pursue (Abdel-Wahab *et al.*, 2008b). Nonetheless, the context of the firm and its competitive strategy should be a key factor in determining the true benefits of investment in training in relation to performance (Ashton and Sung, 2006; Keep *et al.*, 2006). Without a clear understanding by the SME of the impact of training activity undertaken in the context of its business activity, there is little chance of it participating in any training. An important aid to understanding the contribution of training to business performance is to adopt a structured approach for the evaluation of the impact of training. In this paper, a structured approach is adopted through the application of the ROI methodology as a framework for the evaluation of the impact of training provided to SMEs in Aberdeenshire through the European Social Fund (ESF) project. Moreover, the questionnaire design and data gathering approach is discussed.

A FRAMEWORK FOR THE EVALUATION OF TRAINING

Arguably, the paucity of evidence for the impact of training on business performance could be attributed to the lack of a structured approach to such evaluation. An

appropriate evaluation framework for a training activity (in this instance the framework is the ROI methodology) is essential in providing a clear understanding of the actual impact of a training activity and its potential contribution to business performance. The impact assessment of training becomes crucial for demonstrating to SMEs (who are not yet committed to training) that training is a worthwhile endeavour.

The ROI methodology is a well established and tested method which is championed by the ROI institute in the US. It has a global presence, having been applied in over 40 countries (such as Japan, England, Ireland, and Canada) through the ROI networks. The purpose of these networks is to promote individual and organisational measurement (of performance) and accountability through the application of ROI measurement and evaluation practices; to investments such as training (Phillips, 2005).

Phillips and Phillips' (2001) ROI methodology utilises a 5 level hierarchy for evaluation. In the context of a training activity or project, the ROI methodology would typically consider: (1) Reaction –capture the trainees' perception on the structure and content of training and delivery method; (2) Learning – identify the principles, facts and techniques learned by the trainees; (3) Behaviour – the changes in job behaviour and performance resulting from the training, or how learning at the previous level has been applied by trainees; (4) Results – measurement of the final results that occur due to training, such as increased sales, higher productivity, higher profits and less employee turnover; and (5) ROI for the training undertaken. Not all training activities entail evaluation at all 5-levels because the purpose of the training programme should inform the level at which the evaluation of training takes place. It is intended to attempt the application of all five levels to the evaluation over the course of the ESF project; however, the focus of this paper is mainly on evaluation at levels 1 and 2. The ROI methodology provides the basis of an innovative longitudinal developmental study in the context of training evaluation. Developmental studies are relevant to assessment of an individual's growth in a number of areas (Cohen and Manion, 1997). Of most relevance to the evaluation of training is the area of intellectual growth. A methodology for assessment in the context of the ROI should recognise that the key outcome of intellectual growth is not solely an educational one (as is typically the focus in developmental studies). Rather, the end outcome in this context is performance-related in that level 4 of the ROI methodology is result-focused (improvements in productivity, etc.). However, the ROI methodology recognises that any returns resulting from investment are not immediate, in that contributions will commence at Level 1 and then be added to at subsequent levels. In the context of a training project, it cannot be assumed that these contributions will be consistent in that, as previously noted, the evidence for the relationship between training and organisation performance remains sketchy.

The proposed evaluation methodology posits that intellectual growth can be evaluated at levels 1 and 2 in a manner that can then link growth to behaviour change at Level 3, and that the results of implementing behaviour change can be determined at Level 4. On this basis, intellectual growth is seen as being relevant in the context of the ROI methodology in that it allows for the proposed overall evaluation framework for the longitudinal study combining subjective, qualitative evaluation (trainee's perception of training package content relevance, etc.) with objective, quantitative assessment (increased productivity, etc.). Furthermore, placing a developmental study within the context of the ROI methodology allows for a clear emphasis on a cohort methodology that will facilitate a focus on individual variations in growth (at each Level),

particularly if it proves possible to identify a consistent participation within each cohort.

The evaluation of training using a longitudinal study is seldom adopted in the literature. Abdel-Wahab (2008b) found that a key weakness in the literature is the lack of research addressing the possible time lag between HRM interventions, including training, and its effect on firm performance. Haiely *et al.* (2005) argued that only a few studies take a longitudinal perspective suggesting that the majority of HRM interventions have a time-lagged effect, sometime up to 2 or 3 years, before generating effects on firm performance. Thus, there is a need for future research to adopt more longitudinal evaluations of training interventions (Meager, 2009).

AN OVERVIEW OF ESF PROJECT

The ESF project is entitled 'Business Skills for Growth' which commenced in September 2008 with duration of two years. The project is partly funded by the European Social Fund (ESF) and managed by the Centre for International Labour Market Studies at The Robert Gordon University (RGU) in Aberdeen. RGU supplied matched funding for the project together with additional support and further funding from the steering group comprising the Federation of Small Business, Enterprise North East Trust, Aberdeen and Grampian Chamber of Commerce, Learn Direct Scotland for Business and Aberdeen City Council. The central aim of the project focuses on the development and provision of short courses to improve the business skills of SMEs. The target of the project is to reach out locally to 175 participants working in SMEs.

The project is designed to be outcome orientated and focuses on the following targets: to recruit and support 175 participants in gaining new skills; review with beneficiaries what they have achieved from the programme and how they can progress to an accredited award; and work with individuals and employers to review how the new skills developed can be applied within the enterprise and establish a continuing learning plan with the enterprise and individual participant.

The initial stage focused on the promotion of the project in order to attract potential participants. Promotion of the project relied on advertising campaigns in the local radio and newspapers and dissemination through the project partners. Moreover, information packs, postcards and a website (stepsforgrowth.co.uk) were developed which were publicised through networking events held by project partners, such as the Construction Industry Showcase event held by the Aberdeen City Council in February 2009. Following on from SMEs registering their interest to participate in the project, they were invited to undertake training needs assessment. This enabled the identification of the key skills areas that local businesses needed addressing and which subsequently helped in identifying appropriate short courses for delivery by the Aberdeen Business School (ABS).

The following courses were identified as the key needs for local SMEs: 1) Trading online; 2) Contract law; 3) Finding finance; 4) Personal selling: theory and skills; 5) Marketing planning; 6) How to spend your marketing budget?; 7) Practical steps to sustainability; 8) Accountancy and Tax training; 9) Employment law; 10) Business growth; 11) Negotiation skills; and 12) Web strategy. Each of these short courses will be offered in rolling four cohorts over the 2-year duration of the project as shown in Figure (1) below:

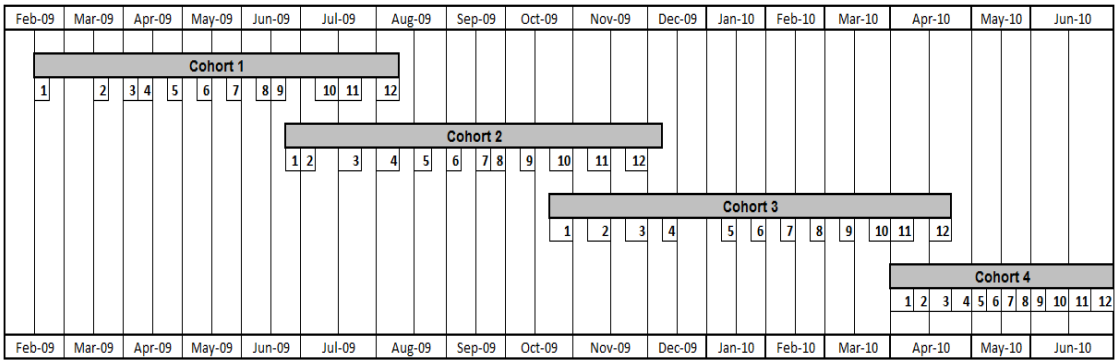

Figure 1: Cohorts and courses offered over the duration of the project

Currently, the total number of participants having attended the short courses is 48, which is approximately 27% of the target number (175). These participants represent Cohort 1, and this cohort is currently being used for dry-run testing of the proposed evaluation methodology. The format for delivery is through a series of short courses including group and project work around business/workplace challenges. The programme is supported by a dedicated virtual learning environment. This hosts on-line material including podcasts and vodcasts. Typically this would include material from leading regional business mentors or additional lecture material. Importantly, it provides participants an opportunity to discuss the outcomes of the short courses with either their tutor or with other participants, so that they would have an interactive learning experience.

ESF evaluation requirements

Given the high value of ESF grants there is an accompanying requirement for comprehensive evaluation. The awarding body requires that a thorough programme of evaluation is instigated for a successfully funded project. The approach proposed by the project team must be documented in the project application under a section entitled "Outputs, Results, Impact, and Evaluation". The importance of evaluation is thus paramount across all elements of the project delivery. At the basic level evaluation centres on the achievement of a set of basic performance indicators against which the performance of the project will be assessed. These include variables such as the number of employers recruited; learners recruited from specific target groups, retention, and completion, achievement, and progression rates.

This information should be documented on a quarterly basis and a progress report submitted to ESF. The evaluation of the programme will primarily rely on feedback from participants, through the use of surveys and in-depth interviews. Participants will also have to identify at least one business improvement through participation in the programme. The proposed evaluation methodology is intended to support the ESF evaluation requirements.

APPLICATION OF THE ROI METHODOLOGY

Phase 1 of the evaluation focuses on levels 1-2 of the ROI methodology and is thus focused on subjective decisions, by trainees, regarding the "value" of training (i.e. attendance of short courses). The vehicle for evaluation of 'reaction' (Level 1) and 'Learning' (Level 2) evidence is a questionnaire (voluntarily) completed by trainees after each training session. Phase 1 responses are anonymous in order encourage an increased response rate. As a result of the dry run the team found that there is a need to improve the robustness of data collection with regard to Level 3 (Behaviour

Changes). It is therefore intended to address this issue by a combination of assigning each trainee a random and anonymous identifier for use throughout the evaluation process, and sending out follow-up questionnaires (using a batch of questions focused on Level 3 criteria) at a set interval (Phase 2) after the completion of each training course. This modification to the evaluation methodology will allow any development (of the trainee) to be tracked across Levels 1-5.

It has to be noted that the dry-run for Cohort 1 will feed-in the whole evaluation framework for other cohorts - which will form an important part for the evaluation of the ESF project. Data and results presented here should be considered solely in the context of testing the proposed framework. There is no intention to evaluate the actual training itself at this point.

A key outcome of Phase 1 testing of the study is the need to develop and use a 'unique identifier' for tracking each individual's participation in every single course. The questionnaire as used in Phase 1 lacked any such identifier as it was felt that the relatively small numbers participating in each short course workshop would allow the team to 'link' individuals to completed questionnaires in a manner that would nonetheless allow respondents to complete questionnaires without any explicit identifier.

However, factors such as the emerging degree of selectivity being exhibited by attendees, and the need to support the evaluation activity at ROI levels 3-5 by tracking back through responses at levels 1 and 2, persuaded the team that the use of a unique identifier was an essential addition to the method. It was also felt that such an addition would add to the level of confidence in the analysis of the data and thereby increase the credibility of the research outcomes (Grey, 2009).

The unique identifier is comprised of the following codes: cohort number, workshop, and participant number. For example, a code of CH1/08/22 corresponds to the 22nd participant in the first cohort who attended workshop 8 - namely 'Accountancy and Tax training'. This unique identifier assumes that each participant would only attend any course-related workshop once.

A short questionnaire was designed to collect evidence of development at levels 1-2 within the ROI methodology. Questions aimed at level 1 (Reaction) addressed the following: rating of workshop venue, timing, materials, trainer's subject knowledge, opportunity to discuss business issues, opportunity to network with other businesses, meeting of expectations, and content relevance and importance to business. On the other hand, questions aimed at level 2 addressed: motivation to apply learning, barriers to implementing learning, and consideration of future training.

The questionnaire has been administered to the three courses completed by Cohort 1 to date; Finding Finance (FF), Personal Selling: Theory and Skills (PS), and The Busy Manager's Guide to Marketing Planning (BM). In addition to gathering evidence related to Levels 1 and 2, the questionnaire has gathered information concerning the nature of each respondent's organisation. The company business area, for example, has covered a range from Visitor Centre, through Psychological Services, Floristry and Accountancy, to Landscaping and Garden Services. None of the trainees completing the Finding Finance (FF) course had a formal HR manager within their organisation, and only one organisation had a formal training development plan. Of the trainees completing the PS and BM courses respectively, two organisations had a formal HR manager and four had a formal development plan.

CONCLUSION

This paper has reported a work-in-progress in relation to the evaluation of the ESF project. Seeking to develop a research methodology for the evaluation of training courses (offered through ESF project) aimed at SMEs has lead the team to consider the ROI methodology as a framework to structure the research. The logic of this approach flows from the possibility of carrying out a cohort-based longitudinal developmental study in a manner that potentially addresses the problems typical of such an approach. The ROI methodology has the potential to facilitate evaluation of the impact of intellectual growth within a group of individuals comprising a non-homogenous cohort. Through the identification of relevant criteria at each of several levels, the ROI methodology represents an apparently robust means of connecting subjective and objective data in a manner that addresses the traditional problem of evidencing the impact of training on business performance for SMEs.

The need to collect subjective data relevant to evidencing criteria within ROI Levels 1 and 2 has resulted in the development of a questionnaire that has been "dry-run" tested on three courses taken by Cohort 1 members. Results of the evaluation of the training courses will be reported in a future paper. Finally, the ROI methodology should be regarded as an important vehicle for demonstrating to SMEs across different sectors of the economy, including construction, the real impact of training activity.

REFERENCES

Abdel-Wahab, M.S, Dainty, A.R.J, and Ison, S.G. (2008a) The participation of Small-to-Medium Enterprises in skills and training initiatives in the UK construction industry: implications for skills policy and construction companies, *Construction Information Quarterly*, **10**(3), 116-121.

Abdel-Wahab, M.S., Dainty A.R.J, Ison S.G., and Hazlehurst, G. (2008b) An exploration of the relationship between training grants and profitability of UK construction companies, *International Journal of Training and Development*, **12**(3), 188-205.

Ashton, D. and Sung, J. (2006), How competitive strategy matters? Understanding the drivers of training, learning and performance at the firm level. Research paper 66, Centre for Labour Market Studies, University of Leicester.

Cohen, L. and Manion, L. (1997) *Research Methods in Education*. 4th edition. Routledge Ltd. London.

Fleetwood, S. and Hesketh, A. (2006) Living (and dying) by numbers: the continuing weakness of the HRM-organisational performance link. Working paper, Institute for Advanced Studies, Lancaster University. Available at: www.lancs.ac.uk/ias/researchgroups (accessed 10 February 2006).

Grey, D.E. (2009) *Doing Research in The Real World*. 2nd edition. Sage Publications Ltd., London.

Haiely, V. H., Farndale, E. and Truss, C. (2005), 'The HR department's role in organisational performance', *Human Resource Management Journal*, **15**(3), 49-66.

Keep, E., Mayhew, K. and Payne, J. (2006) From skills revolution to productivity miracle - not as easy as it sounds? *Oxford Review of Economic Policy*, **22** (4), 539-59.

Meager, N. (2009) The role of training and skills development in active labour market policies, *International Journal of Training and Development*, **13**(1), 1-18.

Phillips, P. P. and Phillips, J. J. (2001), 'Symposium on the evaluation of training', *International Journal of Training and Development*, **5**(4), 240-7.

Scottish Employers Skills Survey (2008) Skills for Scotland, The Scottish Government. Available at: http://www.scotland.gov.uk, last accessed on 20 April 2009.

Smith, A. and Hayton, G. (1999) What drives enterprise training? Evidence from Australia. The International Journal of Human Resource Management, 10 (2), 251 - 272.SSDA (Sector Skills Development Agency) (2005), SSDA Strategic Plan 2005/08, Sector Skills Development Agency, Wath-upon-Dearne.

Wall, T. D. and Wood, S. J. (2005) The romance of human resource management and business performance, and the case for big science, *Human Relations*, **58**(4), 429-62.

Universities Scotland (2009) The Evidence for an Alternative Scottish Economic Strategy, 'What Was/What Next?', available at: http://www.universities-scotland.ac.uk, last accessed on 21 April, 2009.