



# Training as a strategy in value-creation processes



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Workplace arrangements are changing not only with respect to the nature and content of jobs but also in the way organisations use and deploy employee skills. This has resulted in workplaces planning and implementing specific training strategies to augment the skill level of their workforce. However, any training strategy has multi-faceted objectives, and firms adopt training programmes in line with their own particular needs and priorities. What, then, are the factors which make a training programme a success? The issue has assumed great importance owing to the recognition of learning opportunities closely related to work environments and many national training schemes failing in their objective of effectively using the workplace for training purposes.

A startling finding of one recent empirical study, on national training schemes for the long-term unemployed in the United Kingdom, was that such programmes actually reflected and reinforced the processes that lead towards unemployment (Wilkinson, 2001). The study did not question the effectiveness of training as such, but highlighted the difficulties involved in adopting an appropriate framework for the method and application of training strategies. It is worth noting that workplaces in different sectors of the economy routinely make substantial investment in training activity. Many national training programmes also rely on firms to commit themselves to training as part of a policy package, designed to tackle the problem of unemployment, as well as increasing the skill nature of the workforce (Cohen, 2003).

## Training and value-added activities

Several factors have been considered relevant for this enhanced role of firms in providing training opportunities. Rapid technological changes, and the wide application of skill-driven productive systems in industrialised countries, including the European Union (EU) Member States, have played

an important role. In particular, high-performance workplaces emphasise flexible rather than narrow job designs, self-managing teams and innovation and problem-solving skills. The realisation of such high-performance productivity outcomes are however critically dependent on employee skills and knowledge. This also suggests that training is only one factor in a myriad of relationships that increase the effectiveness of learning environments.

However, a large amount of anecdotal evidence suggests that for training to be useful, it needs to be carried out in conjunction with measures which augment the effectiveness of training. For instance, multi-skill training will be of little use for improving productivity if work tasks are divided and assigned in small segments; it will auger well if connected with work-related experience. For both these measures to improve the organisation of production, some participation in shop-floor decision-making will be needed. Thus, one measure is more valuable when other complementary variables are also put in place; conversely, less than optimal outcomes may result if various elements of an intervention programme are not well-coordinated (Ichniowski and Shaw, 2003).

Training should thus be seen as part of a value-creation process. A focus on value helps delineate the factors responsible for a successful training programme. Value is derived when different parts of the programme draw on an existing set of capabilities and their interactions are driven by complementarity. Value based strategies are also about tradeoffs; choices from a set of alternatives need to be made to put in place a well-coordinated programme (Porter, 1996). By thinking in terms of tradeoffs, we are able to choose the most relevant capability set necessary for exploiting complementarities between interacting variables. After all, training policies and programmes do not operate within a vacuum. Training requirements are not the same in all jobs, and dif-

**Organisations devise training programmes to ensure that employees make an effective contribution to enterprise success. Not all organisations are likely to provide training, however, because there are significant trade-offs involved in terms of both costs and benefits. This article discusses the organisational determinants of training: larger establishments with complementary technological systems, well established internal labour markets and organisations which employ an educated workforce are more likely to adopt a well-defined training strategy. Public policy may also influence micro-institutions of learning and development. The influence of many such factors underlines the need for a value-based analysis to help organisations make optimal decisions about the choice of training.**



ferent functional areas have very different job structures. Moreover, broad-brush training strategies are less prone to systematic inquiry into finding the optimal match between the training needs of employees, and how best these needs can be met.

### **Determinants of training strategy**

Much existing theoretical work on training has concentrated on analysing individual choices in making an investment in improving work-related skills. This analysis has generally been couched in terms of how human capital is formed and developed over a period of time. The analysis rarely makes a distinction between the choices of individuals and firms. It is simply assumed that firms will make an investment only in specific types of training which are relevant to their operations, and thus easily recoupable (Becker, 1993). Individuals, on the other hand, will be more interested in making an investment in general types of educational qualifications, which will enhance their bargaining power vis-à-vis firms. We focus here on the determinants of training at the workplace level, reflecting the important role that workplaces now play in creating learning opportunities. Although we make a distinction between employee, organisational and institutional level analyses for delineating the role of training in the value creation process, our primary concern is with determining the ability of workplaces to make optimal training choices.

### **Employee-level factors**

A general empirical observation is that educated workers are more likely to receive training than their relatively less educated counterparts (Lillard and Tan, 1992; Bishop, 1997). It is argued that since educated workers are more likely to benefit from increased training, it is likely that they will get more training. To put this observation in its right economic context, we need to consider the current climate of employment and wage practices.

The last two decades have seen major changes in the demand for skilled workers in European countries. There are three discernible trends, the first of which is the growth in non-manual wages and employment relative to manual workers. This is accompanied by the position of the unskilled relative to the skilled becoming

worse. Using data from the UK Workplace Industrial Relations Survey (WIRS), Chennells and Van Reenen (1997) show that the skill premium has risen since early 1980s. At the same time, the decline in employment among manual workers has been disproportionately concentrated among unskilled workers. Finally, there is the evidence of widening wage inequality within skill categories (including the unskilled) (see Gosling et al., 1994).

Since the number of educated workers in the labour force has increased overall, it should have normally driven down wage differentials. This is obviously not what has happened (Griliches, 1996). It has then been argued that education has become more valuable in periods of rapid technological change; that it takes more education to cope with the constraints imposed by new production systems. This has led many authors to conclude that technology and human capital are relative complements (Kremer and Maskin, 1996; Acemoglu, 1998). Thus, technological innovations always serve to create demands for educated and skilled workers. It is in this sense that a value-based training strategy should target educated workers because they are more likely to benefit from technological advances in production.

Capital skill complementarity also implies that increases in wage inequality will be accompanied by growing segregation of workers by skill. That is, over time, it will become difficult for high- and low-skilled workers to find work in the same workplace. Under these conditions, the economic contribution of archetypical firms such as General Motors, which use both high- and low-skilled workers, has declined relative to firms like Microsoft and Intel, whose workforce are much more homogenous (Kremer and Maskin, 1996). In such an environment, it becomes important that training is targeted at all those employees who are dealing with a related set of tasks, rather than at a select few. Since the skill content of a job complements the expertise of others working on the same set of operations, an all-encompassing training approach will be needed to upgrade organisational capabilities.

Similarly, long-term workers benefit more from their training because they have more time available at their disposal to learn and employ their skills. It is then appropri-



ate that training is provided to those employees who are with the organisation for a long period of time. Although short-term contract workers have sometimes important contributions to make to the life of the organisation, the mere fact that the skills employed by workplaces are homogenous means that it makes more sense to target workers who have long-term commitments to the organisation.

Gender can also play an important role in the firm's decision about who gets training. It is generally accepted that women are more likely to develop their career with the firm that they have started their work with, thus paving the way for long-term career plans. It thus becomes optimal to provide training to women, especially those whose tasks match the work of other employees (Booth and Arulampalam, 1997).

Training is often provided to those who are in middle or high-ranking positions, especially training unrelated to induction programmes. When training is related to new technologies, or when new organisational systems are being introduced, it is more likely that middle-ranking managers will be selected for training. This is likely to happen because of the coordinative nature of the jobs middle-ranking managers often do. They can feed information to their seniors about the potential benefits of new systems, while at the same time organising training required for the lower-level staff. Their net contribution to the value-creation process is enhanced when they undergo training related to the new organisational activities.

### **Organisational-level factors**

In many industrial sectors, different firms hire different quality workers. The catering industry can be cited as a relevant example in that restaurants come in a range of quality levels. McDonald's will not hire famous chefs, and Maxim's will not hire teenage waiters. Systematic differences in product quality, associated with differences in employee skills, are a plausible explanation of why different types of restaurants employ workers with different levels of skill. Similarly, one finds a positive correlation among the wages of workers in different occupations within a firm (Abowd et al, 1999). Secretaries working for investment banks earn more than their counterparts in retail banks. This happens because the secretary's wage

in an investment bank correlates with the investment manager's.

This suggests that workers of different skill-levels are imperfect substitutes, and that output is more sensitive to skill in some tasks than in others. As a result, firms tend to specialise in one skill level or the other, rather than employing workers with all skill types. This then creates the incentives for the segregation of workers in different sets of workplaces, as the complementarity between the tasks promotes self- (i.e. assortative) matching (consider, for example, the case of Microsoft). New information technology has spurred the move to complementarity of tasks. Strategies such as flat hierarchies, restructuring, horizontal networking and team-building have been designed to respond to these changes. This has important implications for training strategies.

Training needs to cater for the requirements of a workplace, in order to specialise in a complementary set of skills (e.g. mastering several related skills such as various systems of information technology) will enhance the ability of an employee to perform a particular task more efficiently. Greater benefit will also accrue if training enhances the ability of employees to interpret information (i.e. the development of intellectual skills) relating to a particular set of tasks. This will facilitate their learning of multi-task skills. Further, the development and effective use of multi-level skills would require complementary human resource management strategies such as employee participation, team operation and employee involvement in decision-making. It is because of these effects that measures such as flatter hierarchies, decentralised supplier operations, and information sharing have become common practice.

Intra-firm learning in teams and work groups would also follow from organisational change, especially when skill-intensive operations are involved. The focus then would be to provide training in areas such as quality, product development and flexibility, often in combination with broad-based technological skills. In skill-intensive organisations, such as flexible manufacturing systems, line managers are assigned a higher degree of responsibility for developing human capital. Managing human resources is no longer seen as an exclusive domain of the human resources department. Human resource issues, in a decentralised environment such



as that relating to skill-intensive operations, are then essentially the key tasks of line managers. The multi-skilling nature of jobs is another characteristic feature of these environments. The assumption is that multi-skilling is found to a higher extent in skill-intensive organisations, than in low-skill organisational categories. Jobs not only become flexible and more skill intensive for managers, but also for lower-level employees. As a consequence, training is not best managed by centrally structured units, but caters to, and draws heavily on, feedback from line managers and workers.

A number of empirical studies show that establishment size is an important determinant of training incidence (Acemoglu and Pischke, 1999). This is understandable because it is more likely that larger establishments are engaged in several technologically-intensive operations. Thus, they will need to provide training to workers who are engaged in all these operations. Small workplaces that are part of a chain of larger establishments will also provide greater training opportunities to their workers than in individual smaller establishments.

Another possible reason is that larger establishments employ a wide range of occupations and are more likely to experience one or more of the occupations characterised by skill shortages. Some occupations are in short supply, and the establishments employing them can be expected to report higher training incidence. Occupations such as managers and administrators, professional occupations, craft and skilled manual workers, associate professional, sales occupations, and plant and machine operatives are often targeted for training. This is because these occupations are likely to experience shortages at one stage or another.

The type of establishment also affects the degree to which training can contribute to value creation. Hospitals and health establishments have one of the highest probabilities of experiencing a shortage of skilled employees. Also significant are hotels, catering and entertainment establishments. This is partly due to the fact that technologically-intensive operations require more training as opposed to those with less demanding technical needs.

Single location establishment types often emerge as being significantly higher recip-

ients of training. This is because establishments with multi-locational links are able to transfer individuals with key skills and expertise between locations. The intensity of training incidences may also vary among different industrial sectors. Sectors such as agriculture, metal goods (including engineering), construction, mineral products and transport are more likely to suffer from a shortage of skilled employees, and thus the need for training is observed in these particular areas.

Other organisational factors may also be responsible for determining the outcome of training. Organisations with established internal labour markets are more likely to provide training to their staff because vacancies are often filled from within. The industrial relations system may also influence training investments. Unions tend to promote measures which act to stabilise employment and so may strengthen incentives to provide training. Several other explanations can also be offered to explain the link between union and training incidence. Unions may be a conduit for an equitable provision of training opportunities. In addition, the propensity of employees working for a firm providing training increases with stronger links with trade unions. Whatever the case, there are indications that there is a positive relationship between trade unions and the incidence of training.

### **Institutional-level factors**

It is generally understood that the collective good features of training increase the probability of training incidence in situations in which there are strong institutions, like industry consortia, intra-firm cooperation and government training agencies (Crouch, 1999). The institutional context of training is, therefore, often explored in determining the efficacy of training. More significantly, the way in which training is organised, financed and conducted can influence the way employee relations become an important part of internal labour markets (Arulampalam and Booth, 1998). This in turn affects institutional features such as seniority rights, compensation systems, pension-vesting rules, and legal or collectively bargained restrictions on layoffs, which provide the foundations to develop internal labour markets (or alternatively increase the cost of changing employers). Internal labour markets are a source of employment security, and thus give es-



tablished workers more incentive to make investment in human capital (compared with a situation where no such guarantees are available).

It is precisely because of this reason that employee tenure becomes an important indicator of the relationship between the firm and the employee's commitment to training. It is suggested that higher levels of training provided by firms translate into longer tenure for employees, an observation closely linked to the 'voice' concept of Hirshman (1970). A caveat is to be made here. Tenure is also positively associated with work design, compensation systems, career development and job rotation programmes, which may also be related to each other. There is then a need to emphasise a set of complementary practices which link a value-based training programme with other related organisational practices.

At a broader level, education and training programmes should allow different stakeholders to share the costs and benefits more equitably. Individuals, industry, community, government and other learning stakeholders would, ideally, assume responsibility for investing in learning in accordance with the particular need of establishing a sustainable learning culture. For instance, wider interest in developing a learning culture led Denmark to pioneer a learner-centred approach to vocational education and training (the National action plan for employment in Denmark has been instrumental in reducing unemployment between 1992 and 2000 by almost half). Similarly, to make vocational higher education more flexible, the Netherlands recently introduced a system of vouchers. This permits students embarking on a particular programme of courses in higher education to receive a certain number of 'right to learn' vouchers exchangeable at higher education institutions. Individual learning accounts have been introduced by Austria and the United Kingdom to enable hitherto underrepresented groups of workers, such as those with low incomes and little education, to access lifelong learning opportunities.

Social dialogue and participation have also spurred the growth of new institutions, particularly in areas such as employment and human resources development. Government and employers' and workers' organisations are engaged in a continuous process of eval-

uating and reforming their education and training systems. Lifelong learning for work is central to these reforms. Many countries, including Ireland, the United Kingdom, the Netherlands and the Nordic countries are introducing their own institutional models for competence standards and mechanisms for recognising and certifying skills (e.g. NVQs in the UK, AQTF in Australia, etc).

Lifelong learning and training strategies call for an integrated vision of education and training pathways. For instance, in Finland the Government's development plan for the 1999-04 period looks to help more young people apply for vocational education and complete their studies. The plan also envisages expanding opportunities for adults to pursue studies that improve their employability and capacity for further learning.

Such an approach permits training objectives and strategies to be formulated at various levels (national, enterprise, training institution, individual, etc). At the national level, human resource development and training objectives are generally aimed at ensuring that their training policies and systems better meet contemporary economic and social needs. For instance, Ireland was the first EU country to set specific targets for poverty reduction. Its human resource development objectives clearly identify poverty reduction and social inclusion of disadvantaged groups, including women, as explicit objectives.

At enterprise level, specific strategies can be formulated to encourage investment in employees' human capital. Because work-related training contributes to improved productivity in the economy, reduces skill mismatches in the labour market, and promotes a country's international competitiveness, special emphasis needs to be placed on providing work-related training opportunities. A comparison of the apprenticeship systems in England and Germany found lower coverage and qualification and completion rates in England, contributing to inadequate skill supplies reflected in the country's poorer productivity and trade performance (Ryan and Unwin, 2000). These considerations prompted the UK Government to introduce the work-based Investors in People training programme.

There has also been a shift away from state-controlled, centralised and supply driven de-

**Table 1**

<b>Training approaches and their outcomes</b>				
<b>Training approaches</b>	<b>Strategy</b>	<b>Principles of organisational design</b>	<b>Examples</b>	<b>Training delivery</b>
<b>Stand-alone training policy</b>	Broad-brush choice of training instruments	Design and management of capabilities through planning and control	Delivery of services in separate areas (training for project planning)	'Packaged' training
<b>Value-based approach</b>	Making trade-offs from a set of alternatives	Coordination of value-maximising complementary resources (i.e. technical and human)	Multi-skill training (training for project planning and implementation)	Continuous training as part of human resource development strategy

livery of training towards a diversified, flexible system of public and private institutions and enterprise-based supply. The goal is to make training supply respond better to economic and social needs and make it more flexible in the face of rapid demand shifts. Cutting training costs and encouraging competition between training providers is another concern. Quality assurance from private industry is also considered vital in improving the public infrastructure (e.g. vocational schools, colleges, etc). For instance, Sweden opened up the market for labour market training to private providers and invited them to compete for public tenders in the 1980s. The United Kingdom and the United States commonly use quasi-markets to deliver training packages. By expanding the range of partners in training provision, including private providers, policy makers hope to widen the training choices available to labour market participants.

### **Training approaches**

An approach to training, which relies on complementarity between technology and skills, locates the analysis of training in a wider context. It argues that economic and technological conditions have the potential to influence managers to use complementarity as a means of developing a new kind of training approach. These conditions are seen as creating new possibilities for managers to combine new technology with a skilled labour force. Managers can employ training with a new technological system in ways that create conditions for upgrading the skill level of employees and also favours the adoption of skill-intensive productive systems.

Training is seen as an integral part of a comprehensive set of policies and programmes for economic and social development. For instance, an approach to flexible lifelong learning, which is coordinated collaboratively between commercial sectors and social partners, is required to support transitions through basic education to further education and training. The policy also encourages governments to focus on education, training and development acquired in environments other than traditional forms of delivery. Workplace learning opportunities are central to these priorities.

Training becomes, within this context, an important strategy because an improvement in the abilities of employees to interpret information, make decisions and solve problems allows greater exploitation of new technology. Questions about the role played by agents such as managers and employees (regarding the training outcome associated with technological and skill change) become paramount. What role do employees play in decisions regarding the type of training made available? How do managers respond to the skill requirements of new technological innovations? Or to what extent do the existing skills bases of organisations determine the adoption of new technological systems? These questions are answered only by taking a value-based approach to training. Some of these issues are summarised in Table 1.

### **Conclusion**

To produce a variety of quality goods, productive systems often have to encourage the bundling of a large number of tasks. The performance of these tasks then requires a



skill configuration which goes beyond the practice of specialising in one particular job (e.g. high-performance productive systems). These changes, coupled with new technological innovations, have meant that the skill content of most operations have significantly increased, resulting in the need to increase training outlays for upgrading the skill level of the firm's employees.

Because of this complementarity between skills and technology, it becomes appropriate that firms' decisions about training are treated as part of a corporate strategy. Though firms make training choices in ac-

cordance with their strategic objectives, they are also fundamentally influenced by many other constraints. These constraints are related to the firm's production function, but factors such as the existing capabilities of employees, organisational preferences for skill and knowledge and internal labour market practices, are equally important in determining the role of training in the value-creation process. Such a training approach is particularly relevant to European workplaces as discussed above. This article has pointed out important trade-offs which need to be made in order to obtain such an outcome.

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### Key words

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