Open Learning: An Action Research Study of Digital, Galway.

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DECLARATION

I hereby certify that this material, which I now submit for assessment on the programme of study leading to the award of Master of Business Studies, is entirely my own work and has not been taken from the work of others save and to the extent that such work has been cited and acknowledged within the text of my work.

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ABSTRACT

Open learning is a relatively new form of training / learning which is being utilised by organisations. One such organisation is Digital Equipment International (Galway), who (in conjunction with Dublin City University) commissioned some research to evaluate open learning within the organisation, and to provide recommendations for improving the efficiency and effectiveness of the open learning system.

The research strategy chosen was that of *action research*, since the research needed to be both relevant to the needs of the organisations and contribute to the field of open learning research. The research undertaken was iterative in nature and involved: (i) an ongoing literature review; (ii) a review of organisational practice (including a telephone survey of twenty-four Irish organisations); (iii) extensive internal research in Digital.

Five critical success factors for the implementation and running of an open learning system were identified from literature and organisational practice. These factors were then examined and tested in the light of open learning practice in Digital. This provided the basis for a list of recommendations for improving the effectiveness of open learning, which were sent to Digital in the form of a consultancy report. It also provided the basis for examining (from an organisational perspective); the extent to which open learning is an appropriate form of training / learning, and the factors which impinge on the usage and adoption of open learning.

ACKNOWLEDGEMENTS

'Every good and perfect gift is from above, coming down from the Father of the heavenly lights, who does not change like the shifting shadows' (James 1:17).

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CBT - Computer-Based Training

ESSB - European Software Supply Business

SPI - Self-Paced Instruction

CHAPTER ONE - INTRODUCTION

1.1 Introduction

This introductory chapter explains why this research project was undertaken, and shows why organisations are utilising new forms of training and learning, such as open learning.

1.2 Digital Equipment Corporation (D.E.C.)

Before explaining why this research project was commissioned by Digital, it would be useful to provide some background information on the corporation itself.

Digital, now one of the world's giant corporations, was started in a shed in Boston by Mr. Ken Olsen 30 years ago, but is now the world's leading supplier of networked computer systems, software and services.

Digital established themselves in Ireland in 1973 and (at the time of this research) were involved in four main business areas: high-volume module manufacture; high-end mini-computers; medium-volume networks; and software manufacture (Shanahan, 1993:5). In particular, the European Software Supply Business (ESSB) section of Digital (Galway), was involved in the manufacture and distribution of an extensive range of software products to Digital's European customers, as well as to the Middle Eastern and North African markets. These products provided support for the computer systems and services which were provided by Digital Equipment Corporation.

1.2.1 Need For Increased Effectiveness

However, in the recent past Digital had reported large losses and had been forced to cut-back on their worldwide operations. Against this background of changes, the Training and Development department at the ESSB had been looking at ways in which they could make their training and development service more effective and efficient. One area they were particularly concerned with was Self-Paced Instruction (the term Digital used for their open learning system). This concern arose because Self-Paced Instruction (SPI) had not been as effective as they had hoped, as they commented themselves, 'despite much marketing and advertising of the use of SPI, the response from users has been muted'.

They therefore wished to sponsor research which would provide them with strategic recommendations which would lead to an improvement in the effectiveness of SPI within the organisation. Therefore, in response to an approach by the ESSB to Dublin City University, this research project was commissioned.

1.3 Why Organisations are Using Open Learning

It should be noted that there are a number of reasons why organisations (such as Digital) have shown an interest in open learning, and have begun to use it. Essentially, their interest has been sparked by the recognition that new forms of training and learning (such as open learning) are required to meet the need for a higher skilled workforce, and to satisfy upcoming trends in education and training.

1.3.1 Need For a Higher Skilled Workforce

Research carried out by McKinsey's office in 1986 estimated that by the year 2,000, 70% of all jobs would require brain skills and 35% would require a degree-level standard (Barrow and Loughlin, 1992:5). In order to compete in the marketplace of the 1990's, a company will therefore need one asset above all else, high calibre employees who have the following characteristics:

(1) A high degree of education, possibly up to degree level or equivalent.

(2) A good level of interpersonal skills in order to manage the interface with customers and between departments.

(3) The ability to learn new skills and continually adapt to changing circumstances.

(4) The ability to work without supervision, while setting own objectives, monitoring own performance and correcting any failures.

(5) The ability to solve problems, think creatively about future possibilities and thereby contribute to the success of the organisation (Barrow and Loughlin, 1992:5).

To be able to provide such a calibre of employee, training faces three major challenges: (1) how to provide lifelong learning; (2) how to provide efficient learning and (3) how to provide effective learning (Cohen, 1991:31). Because the more 'traditional' approaches to training are unlikely to be able to meet this challenge, organisations are using new forms of learning and training (such as open learning) to meet the need for a higher skilled workforce.

1.3.2 Trends in Education and Training

A number of forecasted trends in education and training are also pointing towards the need for new forms of training and learning.

• *There is a trend towards the globalisation of education and training - which in the long run can only be met by telecommunications media (Brande, 1993:xi).*

It is forecasted that before the year 2000, each trainee should be able to connect to telematic training networks, independent of the training scheme or the technological method chosen (Brande, 1993:55), which suggests that telecommunications may become a central media for delivering training to organisations.

• *Job performance learning, and just-in-time training are becoming key concepts in the area of training (Brande, 1993:115).*

As the need for employee learning increases, so will the demand for just-in-time training models which can meet these needs as they arise (Cohen, 1991:32). However, to be able to support this demand, training materials will need to become more modularised in structure and more portable (Galagan, 1990:38-39).

• *Training will increasingly become more available at workstations and places of work (Heathman & Kleiner, 1991).*

This will mean, for example, that a machinist who finds it difficult to replace a part on a machine should be able call up a package on a workstation which will show how to replace the part; or that a manager about to do a performance appraisal should be able to watch a package on

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his workstation which will show how best to do it (Heathman & Kleiner, 1991:27-28). This trend will be facilitated by the forecasted development of workstations into multifunction terminals that include voice, data, fax, videotext and interactive video services (Brande, 1993:102).

• *The concept of ownership of personal development is growing (Rushby, May 1990).*

This means that the responsibility for training / learning will rest more on the employee, and less on the organisation (Kearsley 1984:188). It also means that employees will have greater control over their own learning (Galagan, 1990:39).

• *More complex training services will be required, to deal with the need for 'higher' skills (Brande, 1993:xi).*

The types of knowledge, skills, and attitudes needed by employees are rapidly changing, and becoming more complex (Cohen, 1991:33). This means that more complex training services such as multimedia systems (which can make the training/learning more efficient) and artificial intelligence (which can customise the training) will be needed.

• *The Open Learning market is moving towards more integrated training services.*

This means that open learning producers will provide associated services such as open learning maintenance and support, alongside the open learning courses (Brande, 1993:90).

• *The use of technology-based training in organisations will grow significantly.*

It is expected that on average, the actual use of technology-based training within large organisations in Europe will increase from 10% to 40%, with a shift from centralised computer-based training towards more integrated and distributed multimedia training (Brande, 1993:115).

1.4 Open Learning - The Best Option

In general, open learning is better positioned to help create a higher skilled workforce and to meet these trends than other forms of training, for the following reasons. First, open learning courses are very accessible and give employees a greater degree of control over their own learning than more formalised types of training. Second, open learning courses are more modularised in structure, more portable, and more flexible than other forms of training. Third, open learning utilises technology-based training to a much greater extent than the more traditional types of training.

It is not surprising, therefore, that more and more organisations are introducing open learning into their workplace, as Digital have.

1.5 How Research Was Approached

As was mentioned, this research project was commissioned by the European Software Supply Business (ESSB) at Digital, with a view to improving the effectiveness of SPI within the organisation. However, the project also provided an unique opportunity to examine in detail how open learning was utilised by an organisation such as Digital.

It has been noted that gaining access to most organisational settings is a difficult process not to be taken lightly, and that it is an opportunity which

presents itself to few researchers (Bryman 1988:14-17). Nevertheless, this research did afford such an opportunity. It also provided an opportunity to engage in research which was relevant to the needs of an organisation and could contribute to the field of open learning research. In other words, it provided an opportunity to engage in *action research*.

1.6 Overview of Thesis

An overview of the approach which was taken for this Thesis is shown below.

Chapter Two explains why an action research strategy was used to meet the requirements of this project. It also defines what action research is, the particular model which was used for this research, and the way in which this model provided the basis for the structure of the Thesis.

Chapter Three examines the basic issues and concerns of open learning literature. Chapter Four shows how information which was gathered from literature and organisational practice was used to satisfy a number of research requirements, particularly that of identifying critical success factors which were considered to be necessary for the successful implementation of open learning in an organisation.

Chapter Five describes the pilot research which was undertaken within Digital, and presents findings from it. It also describes how the final interviews were undertaken. Chapter Six presents the findings from the final interviews.

Chapter Seven describes the process by which a strategic approach was identified for Digital. Chapter Eight presents the strategic recommendations

which were submitted to Digital.

Chapter Nine specifies the learning which took place during the course of the research, which was considered to be of relevance to other organisations. Chapter Ten presents the conclusions of the research.

CHAPTER TWO - RESEARCH STRATEGY

2.1 Introduction

This chapter explains why action research was chosen as the most appropriate approach for this research, explains what action research is, and describes the particular model of research which was used for this thesis.

2.2 Research Objectives

As was mentioned, this research project arose out of a joint Dublin City University and Digital[1] project on the optimisation of SPI within the organisation. This meant that it would have to show why SPI had not been as effective as Digital had hoped, thereby providing them with strategic recommendations for improving the level of effectiveness of SPI within the organisation. The stated objectives of the project were:

- To give an overview of the best current practice in industry.

- To indicate the types of jobs / work to which SPI has most successfully been applied, and those where it has not been successful.

- To help Digital to understand the applicability of SPI to the types of work and jobs done in the organisation, and to provide guidance in optimising their investment in SPI.

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[1] For the sake of readability, the ESSB will be referred to as Digital from now on. The term Digital Equipment Corporation (referring to Digital as a whole) and Digital Galway (referring to all of the Galway operation) will be otherwise used.

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• To provide an overview of the critical success factors in the implementation of SPI in an organisation.

• To help Digital improve their understanding of the variables which cause organisations to choose SPI as a preferred learning format.

2.3 Research Method Chosen

There were a number of basic requirements for this project, which pointed towards the characteristics which would be needed by whatever research method was chosen.

(1) *The research project would not be taking place in a 'laboratory' situation, but would be focusing on a real-life, naturally occurring event.*

This meant that some sort of quasi-experimental research strategy would be needed rather than using a classical experimental approach (Gill and Johnson, 1991:55-57).

(2) *Research would need to be relevant to the needs of the organisation.*

It was of paramount importance that the research undertaken would provide findings / recommendations which would be relevant to the needs of Digital. However, the more traditional methods of organisational research would did not seem to be likely to be able to meet this need for relevancy (Thomas and Tymon, 1982).

As Susman (1983:582) says 'There is a crisis in the field of organisational science. The principal symptom of this crisis is that as our research methods and techniques have become more sophisticated, they have also become

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increasingly less useful for solving the practical problems that members of organisations face'. This has arisen, says Susman, because organisational researchers have based their research on a positivist model of science, which is deficient in its ability to generate knowledge for use in solving problems that members of organisations face.

Also, Thomas and Tymon (1982:350) describe a number of potential problems which can arise when a positivist model is used in organisational research. For instance, if a study were to be done in an organisation on the effects of variables a and b on variables y and z there are a number of problems of relevancy which could arise if a positivist approach was followed. Regardless of its findings and rigor, it is probable that such a study would be irrelevant to the organisation if <u>any</u> of the following were true:

(1) If the hypothesis (a,b) → (y,z) did not correspond to phenomena encountered by the practitioner (for example, if a and b did not vary in the organisational context in the same manner as they were presented in the experiment).

(2) If the organisational goals were not captured by y and z.

(3) If management were not able to control variables a and b

(4) If management was already using a theory or strategy that was more sophisticated than simply manipulating variables a and b.

(5) If any of the above became true by the time the research was concluded and its results provided to practitioners.

The best method found which could provide this degree of relevancy (while satisfying the research objectives) was that of action research (Susman and Evered, 1978; Whyte, Greenwood, and Lazes, 1991). While ethnography or grounded theory could provide information of relevance to the organisational setting, it would probably not be effective in meeting the various research objectives, or of effecting change within the organisation (Gill and Johnson,

1991:145-146).

(3) *Research would need to meet appropriate standards of rigor.*

Once action research was identified as the most appropriate research method, the issue of rigor was then considered. As Argyris and Schon (1990:85) say concerning researchers, 'If they tilt toward the relevance of action research, they risk falling short of prevailing disciplinary standards of rigor. From the action researcher's perspective, the challenge is to define and meet standards of appropriate rigor without sacrificing relevance'. In particular, this meant that research was needed which would meet Digital's research objectives, while also adding to the field of open learning research. Action research was one method which was considered to be able to meet both these requirements, as is explained in the next section.

2.4 Action Research

It should be noted that action research is a research method which has been criticised, though it has been successfully used in a number of situations, and in a variety of ways. It is also a method whose definition, history and characteristics are unique, as is shown below.

2.4.1 Historical Development of Action Research

The historical development of action research can be drawn back to Kurt Lewin, who is generally credited as being the first person to consciously use the term action research. Around the same time, the Tavistock institute of Human Relations was founded to determine how social science could contribute to finding solutions for some of the pressing social problems of

the post-war period (Warmington, 1980:23-24). This path of the development of action research then moved through Einar Throsrud and the Norwegian Industrial Democracy Project, on to today (Karlsen 1990:143).

During the development of action research, two distinct camps emerged, each of which had different goals for using action research (Chisholm and Elden, 1993:285). 'Traditional' action researchers used action research to improve organisational performance and generate social science theory (a number of examples of this approach are given later in this chapter). Other action researchers used action research to explore new approaches to basic social problems, and to empower the oppressed, i.e. their goal was social change or transformation. One example of this was research undertaken in conjunction with the University of Pennsylvania, which sought to improve the quality of life for a community in West Philadelphia (Greenwood, Whyte & Harkavy 1993:185-187).

Since the focus of this research project was to improve organisational performance, the 'traditional' approach to action research was followed, and is defined below.

2.4.2 Definition of Action Research

Action research can be defined as that which 'aims to contribute both to the practical concerns of people in an immediate problematic situation and to the goals of social science by joint collaboration within a mutually acceptable ethical framework' (Rapoport, 1970:499). As Oquist (1978:145) states 'within action research, knowledge is produced and reality modified simultaneously: each occurring due to the other'.

There are a few 'positions' which underpin action research (Susman,

1983:95-97). First, that what is being dealt with is a problem which occurs in an existing concrete situation. Second, that the knowledge sought for is concerned with bringing about a solution, and is not there for its own sake. Third, that the research goals and process have been established by both researcher and the client organisation. Fourth, that the research is seen from the outset as contributing to the particular field of research involved.

2.4.3 Characteristics of Action Research

Action research also has a variety of characteristics (Susman and Evered, 1978:589-590; Greenwood, Whyte & Harkavy, 1993:178-180).

(a) *Action research is future oriented*. It is directed towards creating a more desirable future for humans. It links scientific understanding to social action whereby research results reflect the understanding of the members of the organisation of their own system. It therefore provides both scientifically and socially meaningful results.

(b) *Action research is collaborative*. The research process is determined by the needs and competencies of both researcher and client. It also involves collaboration between members of the organisation being studied and the researcher. This is done because it is asserted that members of the organisation are both knowledgeable and intelligent and also because including them in the process will give them a greater involvement and stake in the research itself.

Collaboration is important, since without proper interaction between researcher and client, the goals of the research are likely to diverge from the concerns of the client, towards the researcher's own values or a priori notions of managerial goals (Thomas and Tymon, 1982:347). This may, in

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the end, lead to a low level of commitment by the client to what is recommended by the researcher. As Schein (1988:8) says "If the consultant does all the diagnosing while the client/manager waits passively for a prescription, it is predictable that a communication gulf will arise that will make the prescription seem either irrelevant or unpalatable".

(c) *Action research implies system development.* It encourages the development of the capacity of a system to facilitate, maintain and regulate the cyclical process of diagnosing, action planning, action taking, evaluating and specifying learning (terms which are explained later in the chapter). It is essentially an emergent operation i.e. an intensifying process that is able to gain increased dimension and depth throughout the research.

(d) *Action research generates theory grounded in action.* In action research, theory provides a guide for what should be considered in the diagnosis of the organisational situation. Theory also provides a basis for generating possible courses of action to deal with the problems faced by members of the organisation.

Action research also contributes to the development of theory by taking actions guided by theory and evaluating their consequences. Theory may then be confirmed or revised on the basis of the evaluation. As Mintzberg states (1979:583), data should determine the truthfulness of the theory rather than the other way round.

(e) *Action research is agnostic.* The action researcher recognises that the objectives, problem and the method of the research must be generated from the process itself, and that the consequences of selected actions cannot be fully known ahead of time.

(f) *Action research is situational.* It recognises that situations can change

simply because of the people element. Therefore, appropriate action is based on knowing how employees define their present situations so that planned actions will produce their intended outcomes.

2.4.4 Criticisms of Action Research

However, it should be noted that there are certain criticisms which have been levelled at action research.

Criticisms have been levelled at research which claims to be action research, but has not met the standards required of it. This has generally happened because (i) the research has not provided information / results which are relevant to the organisation or (ii) the research has not contributed to the field of academic research. These types of criticism, while valid, are not criticisms of action research, but rather criticisms of its wrong usage.

Nevertheless, there are a number of criticisms which have been levelled at action research, as a research method.

First, it is stated by some that action research is it not scientific. This opinion is based on the positivist assumption that scientific research should result in relationships between actions and their consequences being explained as particular cases falling under more general laws (Susman and Evered, 1978:590). Action research, by its very nature, is unable to meet this positivist criterion. However, as Susman and Evered point out, action research can be considered scientific, since there are a number of philosophical viewpoints that legitimate it - such as Praxis, Hermeneutics, Existentialism, Pragmaticism / Pragmatism, Process philosophies and Phenomology (Susman and Evered, 1978:594-596; Oquist, 1978).

Second, it is also asserted that it is very difficult to generalise from a single organisation (which is frequently the focus of action research), to a wider population of organisations (a step which would be necessary to provide 'socially meaningful results') (Bryman, 1988:17). However, it has been argued by a number of authors that organisational case studies are capable of being generalised, if this is understood in theoretical rather than statistical terms (see Bryman, 1988:18 for some discussion on this issue). Nevertheless, it is important that the researcher gives due consideration to the significance of change in the organisation, lest the case-study provide an incomplete picture of what is happening within the organisation (ibid. 19-20).

2.4.5 Examples of Action Research

There have been a number of situations in which action research has been successfully used, both to solve organisational problems and to contribute to academic research, as is shown below.

Gill and Johnson (1991:61-69) describe three action research projects, each of which was undertaken to solve specific managerial problems, and yet also managed to contribute to theory. Two of these projects are described below.

The first of these action research projects was undertaken in the late 1970's and had its origins in a research contract between Stanlow refinery of Shell UK Ltd and Sheffield Polytechnic. The project was designed to help management at BP's Stanlow refinery resolve some industrial relations issues on the construction site, nevertheless it also managed to add to a general understanding of industrial relations issues.

The second of these projects was a study of the day-to-day problems

experienced at the manufacturing plant of the Glacier Metal Company, which was undertaken by a group from the Tavistock Institute of Human relations. Besides providing relevant problem-solving information for the organisation, this research also provided extensive information on the difficulties experienced in the operation of channels of communication down the executive line.

Also, in their article on action research, Greenwood, Whyte and Harkavy describe three cases of participatory action research (1993:181-185). Two of the cases are described briefly below, both of which took place in the 1980's.

A study done in the XEROX Corporation, undertaken to help to implement an organisational change programme, showed how conventional forms of allocating indirect costs to industrial products could lead management to make decisions adverse to the economic interests of both company and workers. However, their analysis also provided a basis for a theoretical reformulation of the relationship between worker participation and productivity.

Research done on Spanish Co-operatives, undertaken to teach co-operative members some social research techniques, also managed to provide a broadbased analysis of the commitment of members to cooperative goals, and identified the need for organisational reforms to sustain those commitments.

There have also been a number of action research project undertaken at Lancaster University. For example, research was undertaken by Fuller and Saunders (1990) into the use of open learning by a major retailer in the UK in 1988. Apart from identifying a number of organisational issues which affected the commitment of users to using open learning in the organisation,

the research also identified ways in which open learning was constrained by the operational realities of the industrial environment.

As can be seen, action research has been effectively used both to solve organisational problems and to contribute to academic research.

2.5 Models of Action Research

There are a variety of models of the action research process which have been presented by authors (Karlsen, 1990:150; Susman and Evered, 1978:588; Cummings and Huse, 1989:48-50). In particular, the Susman and Evered model shows how action research can be viewed as a cyclical process with five phases i.e.:

(1) Diagnosing (identifying or defining the problem)

(2) Action Planning (considering alternative courses of action)

(3) Action Taking (selecting and taking a course of action)

(4) Evaluating (studying the consequences of an action)

(5) Specifying Learning (identifying general findings).

They consider that all five phases are necessary for a comprehensive definition of action learning. However, they also acknowledge that action research projects may differ in the number of phases which are actually carried out, since there are situations where the researcher is not able to engage in all the stages of the action research process. These situations may be due to an unwillingness on the part of the organisation to commit itself and its members to full-scale action research, or it may be due to other conditions which short-cut the action research process (Greenwood, Whyte & Harkavy, 1993:188).

Nevertheless, distinctions have been made between different forms of action

research (Chein, Cook and Harding, as quoted in Susman and Evered, 1978:588-589). The term 'diagnostic action research' can be used when the researcher is involved only in collecting data for diagnosis and feeding the data back to the organisation. The term 'empirical action research' can be used when the researcher only evaluates the actions undertaken by the organisation, and feeds data back to it. The term 'participant action research' can be used when diagnosing and action planning are carried out in collaboration between researcher and the organisation. Finally, the term 'experimental action research' can be used when researcher and organisation collaborate in all, or nearly all, phases in setting up an experiment for taking an action, and evaluating its consequences.

The term 'participant action research' most closely approximated the research which was undertaken for this Thesis.

2.6 Model Used for Research

The action research model used for this research project was based on the model developed by Susman and Evered (Susman and Evered 1978:588 and Susman, 1983:103-112), since it contained steps which were distinct enough to be followed, but were also generic enough to cater for the distinguishing characteristics of this research project. The stages of this model are shown in figure 2.1, and the way in which these stages were applied to this research project is explained below.

Figure 2.1
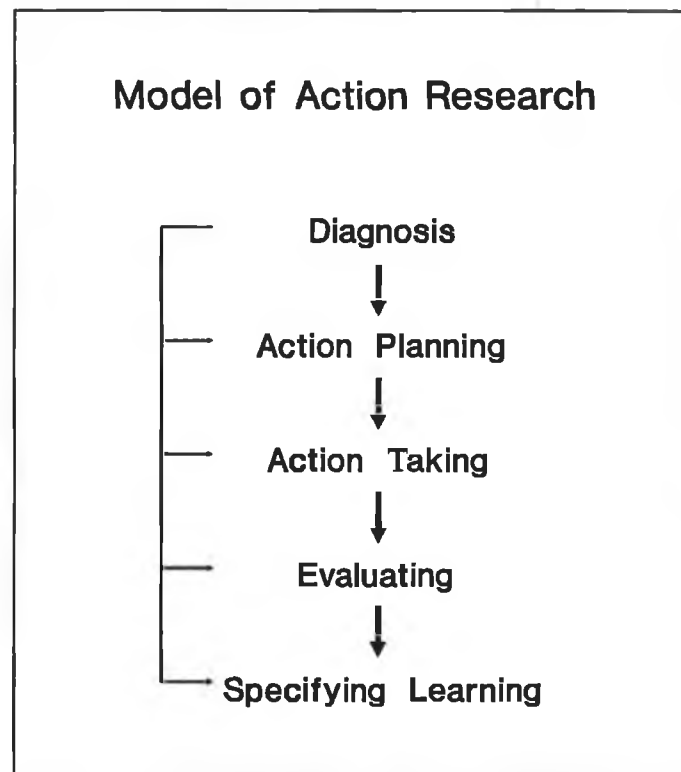
Diagnosis (Identifying or defining the problem)

It should be noted that the Diagnosis stage of this research involved an iterative process of Data Gathering, Feedback to Client and Joint Diagnosis of the Problem (Cummings and Huse, 1989:48-50). This stage took up the bulk of the research, and is described in Chapters Three, Four, Five and Six.

(1) Data Gathering

Data gathering was carried-out in four stages; (i) preliminary literature review (as shown in Chapter Three); (ii) main literature review and organisational practice (as shown in Chapter Four); (iii) examination of

logbook of SPI usage and initial interviews (as shown in Chapter Five); and (iv) final interviews (as shown in Chapters Five and Six).

(2) Feedback to Client

Feedback to the Training department at Digital happened at each of the data gathering stages of the research, and took the form of:

(i) A number of written reports, based on information gathered on the literature and company case studies.

(ii) A presentation to the Training department of data gathered on the usage of SPI in Digital.

(iii) Provisional recommendations, based on data gathered from final interviews.

(3) Joint Diagnosis of Problem

Joint diagnosis of the problem was accomplished as members of the Training department (particularly the manager) discussed with the researcher the content of reports, the content of the presentation, and the content of the provisional recommendations which were submitted.

Action Planning (considering alternative courses of action)

This stage involved analysing data collected during the research, comparing what was found with relevant theoretical models, and determining what sort of strategic approach they were suggesting, as is described in Chapter Seven. However, it should be noted that a certain amount of action planning took place in parallel with the Diagnosis stage.

Action Taking (selecting and taking a course of action)

The recommended course of action, which provided the basis for the consultancy report submitted to Digital, is described in Chapter Eight.

Evaluating (studying the consequences of an action)

The circumstances of this research did not permit this stage of the research process to be undertaken. However, is should not be assumed from this that the Specifying Learning phase of the model was unduly affected, since learning would be expected to happen during each of the stages of the action research process, and not just after the Evaluating stage (Karlsen, 1990:149).

Specifying Learning (identifying general findings)

The general findings which were identified by this research project are shown in Chapter Nine.

2.7 Research Methods Used

To fulfil the requirements of this research a variety of methods of data collection were utilised, as a means of verifying and strengthening the research results (Kane, 1983:52). This was done with the understanding that action research does not presume upon the method of data collection used, whether this is by questionnaire, interview, observation, or written records (Susman and Evered, 1978:589).

The data collection methods used for this research were:

- A literature review.
- A telephone survey of organisations.
- An examination of company case-studies.
- Interviews with employees from outside organisations.
- An examination of the Logbook of SPI usage in Digital.
- Preliminary interviews with Digital employees.
- Final interviews with Digital employees.

The steps involved in collecting and analysing information are described in Chapters Three through Seven.

CHAPTER THREE - DIAGNOSIS (1)

3.1 Introduction

The first step taken in 'diagnosing' the problem at Digital was to identify the basic issues and concerns of open learning literature, and thereby provide a framework in which the research objectives could be met. This involved: (i) defining what open learning is; (ii) gaining an understanding of how and why employees learn; and (iii) determining how organisations learn.

3.2 Open Learning

A number of aspects of open learning were examined, including its historical development, how it is defined, and the various media which are used to deliver open learning.

3.2.1 Historical Development

The history of open learning dates back to the early 1800's, when distance education, through the medium of correspondence courses began. Until relatively recently, such provision had often been regarded as a second-best alternative to conventional education. However, in the last twenty years, a number of factors have contributed to a major change in the status of distance education/open learning so that it is now perceived as being an appropriate and effective mechanism for the education and training of adults. First, the pace of economic change has led to an increased demand for continuing education provision. Second, significant changes in demographic profiles have prompted a renewed concern that there be a sufficient supply

of necessary key skills for future economic demands. Third, advances in new educational technologies have further stimulated interest in distance education/open learning as an effective means of training and education (Brande, 1993:35).

The growth of open learning has also been facilitated by a move away from teacher-controlled towards more learner-controlled forms of learning. The learner, it is said, should have the power 'to define not only when and over what period they might learn, but also what content and form the learning might take' (Fuller & Saunders, 1990:30).

Another impetus for the growth of open learning has been the recognition of the need to provide access to education for those who cannot, or will not receive education by any other means. A good example of this is the Open University in the U.K., who offer degree courses to those who do not have the time, qualifications or physical ability to attend university.

3.2.2 Definition of Open Learning

Unfortunately, the literature does not provide a single term for what has been described here as open learning. In fact there are a number of different terms which are used - each of which emphasise different aspects of the open learning process. The terms used include Self-Paced Instruction (a term which emphasises the ability of users to vary the pace of their learning), Individualised Instruction (which emphasises ways in which the learning can be tailored to individual needs), Open Distance Learning (which focuses on learning at a distance), and Flexible Distance Learning (which emphasises the flexibility of the learning).

It is therefore not too surprising that there are a variety of definitions which

are used for 'open learning' (Thorpe and Grugeon, 1987:4; Brande, 1993:1-2; Lewis and Spencer, 1986:12). In fact, the concept of open learning is used by writers and practitioners in a variety of ways. As Thorpe and Grugeon (1987:2) say, there is a sense in which open learning is 'an umbrella term which refers to a whole series of varied educational initiatives and provision'. Webberly and Haffenden (1987:137) go as far as to state that 'There exists no universally-agreed, adequate and comprehensive definition of open learning... The definition is operational in character and as such expressed in terms of behaviours and outcomes rather than concepts'.

Nevertheless, one of the main 'themes' which runs through most definitions of open learning is that of learner-centredness. For example, the Manpower Services Commission in the U.K. defines open learning as the 'arrangements which enable people to learn at the time, place and pace which satisfies their circumstances and requirements' (Lewis and Spencer, 1986:12). The Commission of the European Communities (1991:4) defines open learning as 'any form of learning which includes elements of flexibility which make it more accessible to students than courses traditionally provided in centres of education and training'. Lewis and Spencer (1986:38) define very explicitly what centring on the learner should involve - learners should have the freedom to choose why they learn, what they learn, how they learn, who should help them, where they learn, when they learn, and how their learning will be measured.

3.2.3 Learner or Company-Centred ?

However, the above learner-centred concept of open learning would not seem appropriate for most organisations. Fuller and Saunders (1990:33) state that a learner-centred approach to open learning 'is almost bound to conflict with the commercial goal of meeting identified company needs'. Other

writers go as far as to say that there is an inherent conflict between the basic goals / expectations of both employers and employees in the areas of training and education (Joyce, 1982:16,20).

The central issue is, what should the purpose of open learning be ? Should it focus mainly on the needs of learners (i.e. employees), or should it concern itself with the business needs of the organisation ? If focusing on the needs of learners implied that learners should have the freedom to choose why they learn, what they learn, how they learn etc., it would be difficult to see how an organisation could provide such a level of freedom to employees in their workplace, or would even want to. Conversely, a company-centred approach could be defined as one in which the organisation decides why employees learn, what they learn, how they learn etc.. However, this degree of restricted learning would be unlikely to benefit the organisation in the long run (Thorpe, 1987:72).

Therefore, since neither a completely learner-centred or company-centred approach is feasible, it is obvious that elements of both learner-centredness and company-centredness will be required for any open learning system within an organisation.

3.3 Open Learning Technologies

There are also a number of technologies which can be used to deliver open learning courses, the most common of which are:
- Print
- Audio Tapes
- Video
- Computers
- Interactive Video

The characteristics, advantages and disadvantages of each of these media is described briefly below (Kearsley, 1984).

3.3.1 Print / Audio Tapes

The advantages of print and audio-tapes are that they are cheap, easy to use, widely available and easy to design. However, they are not capable of presenting dynamic sequences (i.e. visual movement), or interacting with the learner. Although print and audio-tape are used very successfully in distance education, their usefulness for organisational training is limited.

3.3.2 Video

The main advantage of video over print / tape is its ability to model training which involves procedures where visual movement is needed. It is also more effective in conveying affective content, i.e. changing the attitudes of employees. However, it too is unable to interact with employees.

Nevertheless, video is presently one of the main technologies used by organisations to deliver open learning, although they are increasingly using interactive media to deliver their open learning courses.

3.3.3 Interactive Media

Interactive media can be described as those which make interaction between the user and the media automatic and consistent. The main interactive media are computers and multimedia. Multimedia can be defined as any media which can integrate text, graphics, computer animation, motion video and sound in a single presentation (Raskin, 1990:151).

There are a number of advantages which computers and multimedia have in

common, they can:

- Provide good feedback to users.

- Ensure uniformity of training.

- Reduce resource requirements eg. travel, staff and equipment.

- Increase individualisation - through allowing each employee to learn at their own speed and in a fashion most suited to their own particular learning style.

- Ensure that learning rather than entertaining is taking place, through ensuring that an employee knows one section before moving on to the next.

- Deal with complex training needs, since they are more high-powered than print / tape or video.

However, there are also certain limitations which these interactive media have in common. They tend to be very expensive (though they are increasingly becoming less so). Also, they have tended to utilise ineffective teaching strategies in the way in which they presented information to users (though this too is changing).

Nevertheless, there are a number of advances in technology which are increasing the effectiveness of interactive media (Sunday Times, 1993).

First, the advance of neural computers (which model the working of the human brain) has meant that computers are able to 'learn'. This development is leading to the advent of natural language processing (ie. the recognition of speech by computers), and to computers which can recognise handwriting. Neural computing is also the technology which underpins Artificial Intelligence, which has the potential to enable computers to adapt their teaching to the level of knowledge, interests and preferred learning style of the user - and is therefore of particular benefit to open learning. Second, computers are becoming smaller and more portable. Third, new developments in software are leading to embedded training, which will

enable any computer controlled piece of equipment to teach its user how to use and repair it. In fact, plans are already afoot to provide embedded training for Fax's and T.V.'s.

These developments mean that interactive media (particularly multimedia), are increasingly becoming the main media which will be used to deliver open learning.

3.4 Employee Learning and Motivation

For this area of the literature, a number of aspects were examined, especially how adults learn, why they learn and what motivates them to learn.

3.4.1 How Adults Learn

One of the educational issues which has provided an impetus for the growth of open learning in organisations is the question of how adults learn. The literature identifies two basic models of teaching/learning - pedagogical and andragogical (Knowles and Associates, 1985).

The pedagogical paradigm can be defined as that which explicitly or implicitly presumes that the nature and character of learners are those of young and somewhat immature persons (Newstrom and Lengnick-Hall, 1991:43). This means that the learner is, by definition, dependent on the teacher, who takes on full responsibility for deciding what should be learnt, how and when it should be learnt, and whether it has been learnt (Knowles and Associates, 1985:8).

However, the andragogical paradigm claims to be more applicable to adult learners. This model is based on five assumptions about adult learners - as opposed to child learners (Knowles and Associates, 1985:9-12). First, that the adult learner is a self-directing personality. This means that adults have a deep psychological need to be perceived by others, and treated by others, as capable of taking responsibility for themselves. Second, that the adult accumulates a growing reservoir of experience that becomes an increasing resource for learning. Third, that his or her readiness to learn becomes oriented increasingly to meeting the need to know or do something. Fourth, that the adults' time perspective is one of immediacy of application. For the most part, adults do not learn for the sake of learning; they learn in order to be able to perform a task, solve a problem, or improve their lifestyle. Fifth, that internal motivators such as self-esteem, recognition etc. are more potent than external motivators such as a promotion or a raise.

However, while Knowles saw the adragogical model as being more appropriate for adults, he also acknowledged that there were situations where the pedagogical model might be more appropriate e.g. where the adult is learning about a subject which they have no previous experience of.

Open learning is based primarily on an adragogical, rather than a pedagogical perspective.

3.4.2 Why Adults Learn

One of the researchers in the area of adult learning (Houle) has identified three types of learners, who are distinguished by their motivation for learning (Cross, 1982:82-83). First, there are goal-oriented learners who use learning as a vehicle for gaining specific objectives (e.g. learning to speak before an audience). Second, there are activity-oriented learners, who

participate primarily for the sake of the activity itself (e.g. meeting new people). Third, there are learning-oriented learners who pursue learning for its own sake, i.e. they seem to possess a fundamental desire to know and grow through learning.

Another researcher (Tough, 1979:50) found that the strongest motivation to learn for adults is a pragmatic one. Adults learn because they want to be able to use their knowledge / skill to do something, produce something or decide something. This conclusion is supported by other research which has also found that learning which will improve one's position in life (whatever that involves) is a major motivator for adults participating in a learning experience (Cross, 1982:96).

3.4.3 What Motivates Adults to Learn

There are a number of theories of adult learning motivation, which provide various perspectives concerning what it is that affects an adults' motivation to learn (Cross, 1982:112-120). However, rather than attempting to deal with each one of these adult motivational theories separately, a single model which provides a useful synthesis of these theories will be examined. This model is Patricia K. Cross's Chain-of-Responses (COR) model (Cross,1982:124-127), which is reproduced on the next page.

3.4.3.1 Chain-Of-Responses Model

Figure 3.1

Figure 4. Chain-of-Response (COR) Model for Understanding Participation in Adult Learning Activities
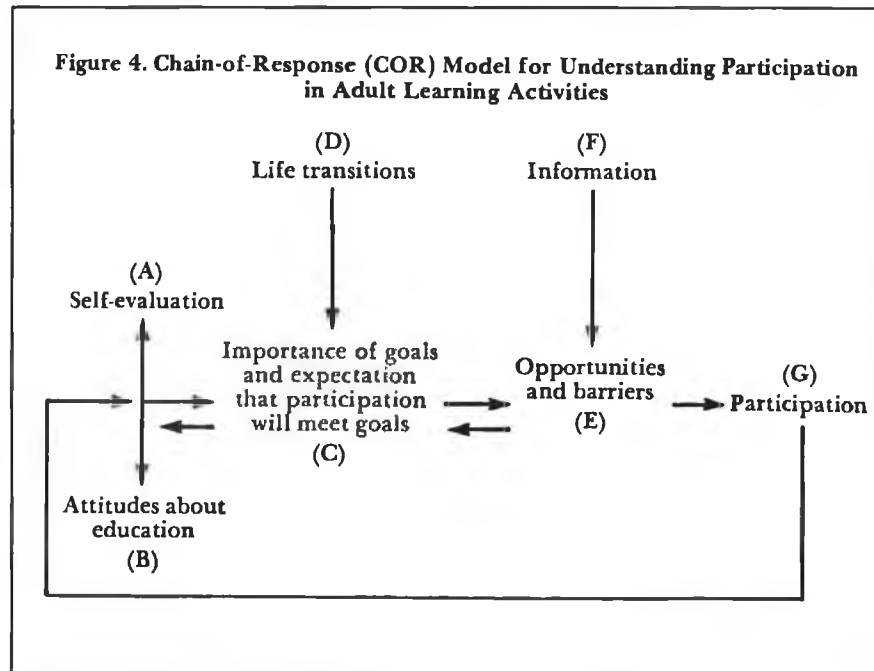
Source: Cross, 1982:124

This model identifies a number of variables affecting the motivation of adults when they participate in a learning experience, such as open learning. The diagram (A through F) indicates that forces for participation in adult learning activities begin with the individual and then move to increasingly external conditions (though forces may flow in both directions). Each of these variables is explained below (Cross, 1982:132-144), and applied to open learning.

The first variable in the model is self-evaluation (A). Employees who have low self-esteem will tend to avoid participating in open learning because of the risk of failure. However, they can be encouraged to participate through the creation of learning opportunities with low levels of risk and threat.

The second variable is the employees' attitude towards learning (B). This attitude is influenced by personal experiences of education / training as well as the opinion of fellow employees. Negative experiences at school or in training will result in reduced participation. To overcome this, positive attitudes towards open learning will need to be built. This can be done through providing positive experiences of learning (e.g. at employee induction), and tapping the support of family, friends, and peers.

Variables (A) and (B) will affect the importance of goals to the employee and the expectation that participation in an open learning scheme will meet those goals (i.e. variable C). This means that if employees are to participate in open learning, two conditions must be met. First, they must believe that participation in open learning will be successful. Second, they must believe that successful participation will meet their goals (whatever they are). Therefore, it is important to determine what the goals and expectations of employees are, and to ensure that the learning scheme is tailored to meet these needs.

The necessity of adapting to life transitions (i.e. changing circumstances of life) constitutes a powerful motivating force for learning (variable D). For example, an employee about to start a new job would tend to be highly motivated to learn new skills directly related to that job. Conversely, an employee who is near retirement would be far less motivated to learn new job skills. The main advantage to the organisation of understanding this principle is that it can capitalise on positive life transitions (e.g. new job) and compensate for negative life transition (e.g. retirement).

Opportunities and barriers (variable E) also affect employee participation in open learning. The main barriers for employees are lack of time, scheduling problems, lack of information about appropriate opportunities, lack of confidence and lack of interest. To the extent that it can, the organisation

needs to remove these barriers, and to create positive opportunities for employees to use open learning.

Variable (F) describes the receipt of information by employees, and not merely its dissemination. Merely disseminating information on open learning within an organisation does not ensure that it will be received and understood by employees. To ensure that such information is actually received and understood, it is important that the way in which it is presented to employees is shaped by their attitudes towards learning, and by their goals.

The above variables (A-F) will determine the extent of participation by the employees in an open learning scheme (variable G).

3.5 The Learning Organisation

As was mentioned in the first chapter, more and more organisations are seeking for new forms of training and learning. One of the reasons they are doing this, is because they wish to become more flexible and able to adapt, so as to gain competitive advantage (Drucker, 1989; Peters, 1990 & 1992). However, as has been noted by a number of authors, if organisations wish to be flexible and able to adapt, they need to learn (Pedler, Boydell & Burgoyne, 1989; Beck, 1989;, Easterby Smith, 1990; Garratt, 1990; Nyhan, 1991). That is, they need to become learning organisations.

3.5.1 Definition of a Learning Organisation

One of the most widely used definitions of a learning organisation is, 'an organisation which facilitates the learning of all its members and

continuously transforms itself' (Pedler, Boydell & Burgoyne, 1989:1). Essentially, organisational learning is a continual process of organisational transformation which harnesses the fruits of individual learning. As Beck (1989:22) points out, the concept of 'transformation' is used to describe changes which are adopted positively as part of organisational strategy, rather than changes which are imposed on the organisation from the outside, or because of external pressures.

A learning organisation is also one which displays a concern for learner-centred and not just traditional forms of development. As Hendry and Jones (1990) state, the learning organisation goes beyond traditional boundaries of training provision, and creates access to a range of learning situations which inform immediate, medium and long-term planning, in the context of organisational and personal development.

However, it should be noted that some authors are of the opinion that there are no existing organisations which can accurately be described as 'learning organisations' (see Pedler, 1991:128-129). Instead, they see the concept of the learning organisation as being more of a metaphor / concept which provides direction for organisations who wish to move closer to becoming learning organisations, rather than being an end product.

3.5.2 How to Create a Learning Organisation

One of the big challenges for an organisation which wishes to move closer to becoming a learning organisation, is how to assimilate individual learning into the organisation (Johnson, 1991:5). However, this is somewhat more problematic than it might first appear. For instance, a number of writers have pointed out that it is stretching the concept of 'learning' to claim that it is something which organisations do. Also, as Kim (1993:40) shows,

organisational learning is more complex and dynamic than a mere magnification of individual learning. Although the meaning of the term 'learning' remains essentially the same for both organisations and individuals, the learning process is fundamentally different at the organisational level. Nevertheless, it is just about plausible to think of organisations learning, if that is taken to mean acquiring the capacity to do things, and then actually doing them (Beck 1989:21).

A number of steps have been suggested by authors for facilitating the development of a learning organisation i.e.:

(i) Find out what organisational learning is (Easterby Smith 1990:25).

(ii) Provide a number of different channels for information and learning in the organisation (Garratt 1990:41-51).

(iii) Establish a high-level of communication and dissemination of information within the organisation.

(iv) Ensure that performance-based appraisal systems are managed properly (Garratt, 1990:35-38).

(v) Promote experimentation within the organisation (Easterby-Smith 1990:25-26).

However, it needs to be understood that 'if anything approaching a learning organisation is created, it will automatically be highly specific to the employer, the location of plants, and the concerns of the employees. In other words, it will be tailor-made with a vengeance' (Beck 1989:24). Therefore, the way in which the above steps should be implemented would depend very much on the context of the specific organisation.

3.5.3 Open Learning and the Learning Organisation

It should be noted that open learning can facilitate the development of a learning organisation in two specific ways. First, because of its flexibility, it can support access to a variety of learning situations in an organisation. Second, because of its conceptual aspect, it can support the promotion of learning and personal development as key values within the organisation.

3.6 Summary

As can be seen, a number of aspects of open learning were identified after the initial literature review i.e. (i) a definition of open learning, and how appropriate it is in an organisation setting; (ii) an understanding of how and why employees learn and (iii) an understanding of how organisations learn. This step was then followed by more indepth data gathering, as is explained in the next chapter.

CHAPTER FOUR - DIAGNOSIS (2)

4.1 Introduction

The next step taken in the Diagnosis stage involved gathering information from the literature, and from organisational practice, so as to satisfy a number of the objectives of this research. This step led in particular to the identification of a number of critical success factors, necessary for the successful implementation of open learning within an organisation.

4.2 Research Requirements

A comprehensive review of the literature and organisational practice was undertaken with a view to satisfying a number of the research requirements of Digital i.e.:

• To give an overview of the best open learning practice in industry.

• To indicate the types of jobs / work to which open learning has most successfully been applied, and those where it has not been successful.

• To help Digital improve their understanding of why organisations choose open learning as a preferred learning format.

• To provide an overview of the critical success factors in the implementation of an open learning system in an organisation.

The way in which these research objectives were met is shown in the following sections in this chapter i.e.:

- Overview of best current practice in industry.

- Types of job/work to which open learning has most successfully been applied.

- Why organisations choose open learning

- Critical success factors in the implementation of open learning in an organisation.

4.3 Overview of Best Current Practice in Industry

To determine what the best current practice in industry was, a number of research steps were taken. Initially a telephone survey of Irish organisations was undertaken, to gauge how extensive open learning usage was among organisations in Ireland. This was followed-up by interviews with a number of people and organisations involved in open learning. Finally, a number of case-studies of European organisations were examined. The results of these steps are presented below.

4.3.1 Telephone Survey

Initially, a telephone survey of twenty-four of the top Irish organisations was undertaken. The purpose of this survey was to gauge how extensive open learning usage was in Ireland, and what form this usage took (See Appendix A for a listing of questions asked).

The organisations contacted (see Table 4.1) were targeted without prior knowledge of whether or not they had used open learning. In each case an employee (mostly the manager) of the training department was contacted.

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The organisations were selected from the 1991 Business and Finance Top Thousand Irish Companies (mainly from the top fifty). In particular, five of the companies were chosen out of the Top Ten Employers, three from the Top Ten in Services and four from the Top Ten Multinationals. Other companies were selected because they were involved in 'high-tech' industries.

4.3.1.1 Results of Telephone Survey

The picture which emerged from the telephone survey was revealing. The prevalence of open learning among companies contacted was quite low, only eight of the twenty-four organisations contacted by phone actually used open learning (see Table 4.1). In the case of organisations who were using open learning, the level of involvement and commitment to open learning seemed quite low (lower than was the case with Digital). This suggested that Digital might be one of the main users of open learning in Ireland.

This low level of involvement in open learning was particularly surprising since the organisations contacted had been specifically targeted based on their successful track record, or the 'high-tech' component of their business. It had been expected that such organisations would have a relatively high level of involvement in open learning, because of its potential benefits.

Another unexpected finding was that the usage of open learning seemed to be very similar for both traditional and the more modern and high-tech industries (as can be seen from Table 4.1). It had been expected that the more modern and high-tech industries would have had a higher degree of involvement than the more traditional industries, since open learning is considered to be more flexible and better able to increase the adaptability of employees than other forms of training.

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Table 4.1 - Results of Telephone Survey

Used Open Learning	Did not Use Open Learning
Jefferson Smurfit Group	An Bord Bainne
CRH	Dunnes Stores
Telecom Eireann	Kerry Group
Amdahl Ireland	PJ Carroll and Company
Irish Sugar Company	CIE
An Post	Wang Laboratories Ireland
Aughnish Alumina	MF Kent Group
RTE	Pepsi Cola Manufacturing
	Express Foods Group Irl.
	Superquinn
	Bord Gais Eireann
	Pfizer Chemical Corp.
	ICI Ireland
	Analog Devices
	Philips Electronics Irl.
	IBM

4.3.2 Interviews

A number of interviews were then conducted with a variety of people who were involved in open learning in Ireland. This was done to gauge what the main issues and critical success factors were in the use of open learning in

organisations (see Appendix B for a listing of those who were contacted). An unstructured interview style was used for this part of the organisational research (a form of interview which is often used at the beginning of the research project, when little is known of the questions which need to be asked, or of the possible answer categories).

In particular, training managers from six Irish organisations (Aer Lingus, FAS, CERT, ESB, FAS, Erricson System Expertise and the IPA) were interviewed to find out: (i) why the organisations chose open learning; (ii) what technologies were used; and (iii) what benefits and problems were experienced in using open learning (see Appendix C for a listing of the questions asked).

4.3.3 Case Studies

Unpublished case-study material on a number of European organisations who were known to be using open learning, was then examined (DELTA, 1991). The organisations looked at were British Telecom, Rover, British Gas, Abbey National, Bull and the San Paolo Banking Group. These organisations were examined to find out: (i) why they chose open learning; (ii) what technologies they used; and (iii) what benefits and problems they experienced in using open learning.

4.4 Organisational Practice

When all the data collected from Irish and European organisations was examined, it was found that there was a wide range of open learning practice among them (see Appendix D for examples of best practice in ESB, Aer Lingus, Abbey National and Rover). Essentially, there were a number of

differences among the organisations regarding: (i) why they chose open learning; (ii) what the focus of open learning was; (iii) what media and courses were used; and (iv) who made the decision concerning which employees would use open learning.

4.4.1 Advantages of Open Learning

There were a variety of reasons why organisations used open learning:-

- To provide a greater degree of flexibility within the organisation (mentioned by most of the organisations which were contacted).
- To lower training costs.
- To meet the performance needs of the organisation.
- To open up training to all staff.
- To develop employees beyond the confines of their jobs.
- To ensure transfer of learning to the job.
- To facilitate a change from a training-based culture to a learning organisation culture.
- To provide certification for employees.
- To improve the quality of training.
- To train customers in the use of a product.

For instance, a number of organisations, such as Aer Lingus and the ESB, chose open learning primarily because they wanted to open up training to all employees, particularly shift workers. British Gas, British Telecom and Abbey National all chose open learning to make training quickly available to a large number of employees who were spread over a wide geographical area. Rover chose open learning as the best means available for developing employees beyond the confines of their jobs. FAS, CERT and IPA all chose open learning / distance education as the best means of providing certification for individuals enrolled on the courses they were providing.

Finally, BULL (France) chose open learning / simulation as the most effective way to train both employees and customers to use and maintain BULL computer systems.

4.4.2 The Focus of Open Learning

In most cases, organisations introduced open learning to meet specific training needs such as appraisal counselling (British Telecom) or learning about financial products (Abbey National). Nevertheless, other organisations introduced open learning primarily for the purpose of employee development (Aer Lingus, ESB and the Rover Group).

Also, in some organisations open learning courses were tied-in to formal training (FAS, British Telecom and San Paolo Banking Group), while in other organisations they were not (Abbey National, Rover, ESB and BULL).

4.4.3 Open Learning Media and Courses

Some organisations, such as the ESB and Rover, used a broad range of media (i.e. text, audio, video, computer and interactive video) to deliver a broad range of open learning courses. However, most organisations used only one or two media, to deliver a small number of open learning courses (British Gas, British Telecom, Abbey National, CERT).

4.4.4 Who Decided which Employees Used Open Learning

When it came to the issue of who took the decision concerning who should or should not use open learning courses, three basic approaches were taken

by organisations. In some organisations employees used open learning courses only when nominated by their line manager, or because they were required to use it (San Paolo Banking Group, BULL and British Telecom). In other organisations employees decided themselves whether or not they would use open learning courses (Rover). In still other organisations, both line managers and employees jointly decided which open learning courses would be used, by means of an individual training plan (Abbey National and ESB).

4.4.5 'Model' of Open Learning used by Organisations

As can be seen, the range of organisational practice was indeed quite wide (even among organisations who exemplified best practice). Nevertheless, the approach taken by organisations seemed to be strongly influenced by their reason for using open learning.

Where organisations used open learning to make training/learning available to more employees, or to develop them beyond the confines of their jobs, or to facilitate a change from a training-based culture to a learning-organisation culture, a learning centre model of open learning tended to be used (which provided a menu of open learning media and courses for employees to choose from). However, where open learning was introduced to meet a specific need in the organisation, or to make training available to employees spread over a wide geographical area, then a different model of open learning was used, whereby a small number of media were used to deliver a specific set of open learning courses.

<u>4.4.5.1 Training Culture</u>

The approach taken by organisations also seemed to be influenced by the training culture within the organisation. Some organisations followed a more traditional training approach, whereby open learning was seen merely as a more flexible form of training. However, in other organisations open learning was used to give employees greater freedom and responsibility for their own learning, and to facilitate a change from a training-based culture to a learning-based culture.

4.5 Types of Job / Work to which Open Learning has most Successfully been Applied

The general 'opinion' of those who used open learning was that it was of equal relevance to all types of job and work. None of the organisations looked at considered that open learning was inherently more suitable to one type of job or work rather than another. Even when the organisation used open learning to train specific employees, this was in response to a targeted training need, and not because they considered that open learning was inherently more suitable for the job or work of those employees.

However, it was generally felt that open learning was not equally appropriate for all types of learning. For example, open learning was not considered suitable for teaching certain interpersonal skills such as negotiation, where face to face contact was seen to be particularly important. This was confirmed by the literature, in which it was found that open learning is only appropriate for:
- Imparting knowledge to employees through presenting ideas to the learner, and helping them to apply them.
- Providing guidance in analytical skills.

- Teaching procedural skills, as long as the information which is presented is close to the actual organisational situation.

- Providing basic information on interpersonal skills. However, a face-to-face component will also be needed to ensure that proper training has taken place.

- Laying the groundwork for practical skills (e.g. showing how to operate a machine), but recognising that at some stage the actual operation will have to be done under supervision.

- Influencing employees beliefs and attitudes, while also understanding that for permanent attitudinal change some group activity will probably be required (Manpower Services Commission 1988:D8).

Also, open learning was not considered to be equally suitable for all types of people. It was felt that some employees thrived on open learning, while others preferred group and 'hands on' learning. Although the reason for these different responses to open learning was not clear, it did suggest that not everybody in an organisation would wish to use open learning courses, nor should be expected to do so.

4.6 Why Organisations Choose Open Learning

There are a variety of reasons why organisations choose open learning as a preferred learning format, based on the advantages which they believe open learning can provide for them. These are listed below.

• *Open learning gives employees a greater degree of control over their learning.* Even though employees freedom of choice will probably be limited by company logistics, open learning should produce in employees a greater sense of control and responsibility for their learning (Mann, 1988:41).

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• *The flexibility of open learning allows training to be started anytime.* This means that it can be used by employees during slack periods. It also means that it can be used by all employees, including shift workers. In particular, as British Gas discovered, open learning enables managers to release key employees for training who couldn't otherwise be spared for a formal training course. This ensures that training needs are met wherever and whenever needed (Lewis, 1987:83).

• Large numbers of people can be trained concurrently - thereby eliminating training delays (Lewis and Spencer, 1986:48).

• *Open learning allows employees to target their own training* (Lewis, 1987:83). Because of the modular structure of open learning packages, the employee can choose which modules he or she needs. For instance, Abbey National found that the modular structure of a computer based training programme meant that it could be used for training new staff, updating experienced staff and widening the skills base of existing employees.

• Because open learning usually occurs on or near the job, the likelihood of transference of what is learned to the job is increased (Lewis and Spencer, 1986:48).

• *Open learning can reduce the training-time needed by employees* (Webberly, 1986:52). For instance, Rover discovered that open learning led to a 30% reduction in course duration as compared to formal courses.

• *Open learning can be more cost-effective than other forms of training.* This cost effectiveness is mainly due to (i) travelling and subsistence costs being cut and (ii) economies of scale (Lewis and Spencer, 1986:49). A number of organisations, including British Telecom, Rover and BULL, have found open learning to be very cost-effective. In fact an Employment Department report

revealed, that on average open learning costs were only 60% of conventional programmes. It was found that the greatest savings were experienced with large numbers of trainees, but cost-savings were also experienced with smaller numbers (Open Learning Directory, 1991:xii).

• *Open learning materials ensure greater consistency in training than traditional teacher / pupil methods*. A number of organisations have found this advantage to be particularly important, especially when they needed to disseminate training information among a number of their branches.

• Open learning materials are usually easy to maintain, update and amend - far easier than having to retrain trainers (Lewis and Spencer, 1986:49).

• *The quality of training can be significantly improved through the use of open learning*. For instance, a report which was commissioned by the Employment Department in the UK discovered that organisations using open learning had a significant increase in sales, a reduction in the number of customer complaints and an improvement in their promotion record (Open Learning Directory, 1991:xii).

• *Open learning can enhance the effectiveness of formal training courses*. A number of organisations have successfully used open learning to support formal training courses. This has been done either by using open learning to bring employees up to a minimum standard before the formal training has started, or to by using open learning to refresh peoples memories after the formal training has finished.

• The flexibility of open learning can produce the key skill of adaptability in employees (Lewis, 1987:83).

4.7 Critical Success Factors in the Implementation of Open Learning in an Organisation

Research into the literature and organisational practice also identified a number of critical success factors which were needed for the successful implementation of an open learning system in an organisation. The factors identified pointed towards the need for:

- The use of a systems approach
- Employee commitment to using open learning courses
- The proper design of open learning courses
- Suitable learning centres
- Publicity
- Support
- Formalisation.

These factors, and the way in which they were implemented by the organisations examined, are described below.

4.7.1 Use of a Systems Approach

One of the critical success factors identified was that a systems approach should be used, i.e. that open learning should be seen as part of a training solution, which is itself part of a wider approach to improving performance within the organisation (Lewis, 1990:23). Such a systems approach involves four basic steps. First, identifying what is limiting the organisation's performance. Second, determining the degree to which the limiting factors identified are due to employee performance. Third, identifying the extent to which employee performance could be improved by training. Fourth, deciding how many of these training needs can be met by open learning.

These steps will ensure that the training needs of the organisation are adequately identified and dealt with.

However, once the training needs which can be met by open learning are identified, some other issues will then need to be examined. First, should the open learning be based on a learning centre model, or should a more focused approach based on a limited number of media be used ? Second, what sort of strategic plan should be used to introduce and embed open learning in the organisation ? Third, what sort of links need to be established between formal training and open learning in the organisation, if any (Lewis 1987:93 & McNay, 1987:13-19) ? As soon as these issues are dealt with, then the organisation will be ready to look at the rest of the critical success factors.

4.7.1.1 Organisational Practice

Among the Irish companies contacted, only the ESB was using what could be described as a systems approach. In contrast, almost all of the European companies examined introduced open learning as a result of identifying specific training needs which could be met by open learning.

4.7.2 Employee Commitment to Using Open Learning

Another critical success factor identified was the commitment of employees to use open learning. Fairbairns (1991:44) mentions three perceptions which employees need to have if they are to be committed to using open learning. First, employees must believe that the open learning materials can teach competencies which are necessary for their work. Second, they must believe that they are in need of such competencies. Third, they must believe that the acquisition of these competencies will be rewarded by the organisation.

However, this issue of commitment is more problematic for employees than it would be for other adult learners, for two reasons (Fuller & Saunders 1990). First, employees are expected to learn while handling the pressure of work demands and time constraints. Second, companies tend to reward performance, not learning. Unfortunately, this implies that employees who are operating under these negative motivational forces, will be unlikely to choose voluntarily to engage in open learning.

4.7.3 Proper Design of Open Learning Courses

The need for open learning materials to be properly designed, was another critical success factor which was identified. If employees find open learning materials to be too difficult or not sufficiently advanced, and badly designed or uninteresting, they are unlikely to finish the open learning course (Woodley, 1987:61). Therefore materials need to be relevant in terms of content, tone, and level, both to employees current and next jobs (Fuller and Saunders, 1990:32). As Mann (1987:43) shows, people are most committed to using courses which (1) take the learner and their experience and work context seriously through (2) a professional presentation and design which consistently and clearly addresses the topic in such a way that (3) it is grounded in practice through real examples and exercises (Mann, 1987:43).

Other characteristics of good quality open learning courses are as follows (Mann, 1987:61-63), they are:-
- Complete, i.e. all the pieces of the course are available and together.
- Consistent, i.e. the level and tone of the course remain at a consistent level.
- Clear, as regards instructions etc..
- Unrepetitive.
- Explicit, i.e. it is clear what the aims of the package are and how to use

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the package.

- Serious, and not patronising.

- Relevant to the learner's own experience and situation.

- Grounded in reality (e.g. making frequent use of case studies).

- Transferable, i.e. they encourage and enable the learner to relate what is learnt to the job.

- Flexible, so that user can select the most relevant modules.

- Not too long or too short.

4.7.3.1 Internal v. External Formulation of Materials

However, any organisation wishing to use open learning materials needs to decide whether these materials should be formulated internally, bought in from the outside (with possible adaptation), or both.

If a decision is taken to formulate the material internally, a number of steps should be taken (McNay 1987:16-19). Initially, a open learning design team will need to be established. Next, a schedule for the production of open learning courses will have to be drawn-up, and standards suitable for teaching-content and presentation will have to be decided upon. However, it should be noted that the issue of standards will need to be addressed anyway, whether material is formulated internally or not.

If a decision is taken to buy open learning materials from outside the organisation, they should be chosen carefully, since 'off-the-shelf' courses are far less likely to meet specific organisational needs than materials which are formulated internally by the organisation. The following criteria should therefore be followed when choosing such courses (Manpower Services Commission, 1988:D14):

- It should be clear what kind of learners the package is aimed at (and that they are fairly similar to employees within the organisation).

- The intended learning objectives/outcomes should be clearly identified and be similar to what is needed by the organisation.

- It should be possible to try-out packages with potential users.

- The level of support needed with the courses should be available in the organisation.

- The package should allow itself to be modified.

4.7.3.2 Organisational Practice

The design of open learning materials was treated very seriously by most organisations (particularly those engaged in distance learning such as FAS, CERT and the IPA). Some of these organisations used both subject matter experts and course designers to ensure that open learning courses were interesting, challenging and relevant to employees jobs.

However, not all the organisations wrote their own materials. For instance, Rover bought most of their open learning materials off the shelf, and then tailored the materials to meet their own needs. They used a fourfold criterion to decide when new open learning courses should be bought. First, when existing courses needed to be updated. Second, where the purchase would extend the range of courses which were available. Third, where the purchase would provide additional levels in a subject area already catered for. Fourth, where the course would use more efficient forms of media than was presently available. Nevertheless, other organisations (such as Aer Lingus and Ericsson) bought materials almost exclusively 'off the shelf', without tailoring them in any way.

4.7.4 Suitable Learning Centres

Another critical success factor identified was that the location, layout, and administration of the learning centre needed to be suitable for employees.

Although learning centres have an advantage over other forms of open learning, since they offer a variety of resources and training technologies to the organisation (Tuck, 1988:76); it is important that learning centres are located in premises which are accessible to staff and conducive to learning, if they are to be effective.

There are also a number of tasks which need to be undertaken to ensure that the open learning system is administrated effectively (Manpower Services Commission, 1988:D22-D23 & Bailey, 1987:143), such as:-
- Liaising with managers (and any other decision makers in the area of open learning).
- Ordering new materials.
- Booking materials out and in for users.
- Timetabling and maintaining physical resources, i.e. media and materials.
- Collecting data on the usage of open learning.
- Co-ordinating support activities.

4.7.4.1 Organisational Practice

Only a few of the organisations examined utilised learning centres (Rover, ESB and Aer Lingus). Yet all of these organisations considered that having a suitable location and environment for the learning centres was very important. For instance, the ESB designed their learning centres to ensure that they were conducive to learning in terms of their privacy, heating, lighting, ventilation, comfort level, quietness, and access to food and toilet facilities. They also emphasised the importance of ensuring, that as far as

possible, the learning centre was located where it would be accessible to all staff, at all times.

4.7.5 Publicity

Publicity was also identified as a critical success factor. The importance of publicity is that it both informs and persuades employees to use open learning courses, while linking motivated learners to appropriate opportunities (Bailey, 1987:56).

However, to be effective, open learning publicity needs to be properly disseminated within the organisation (Brown, 1987:203-205). What is important is not how much information is sent out, but how much of it is (i) received, (ii) understood and (iii) leads employees to use open learning in an effective manner (Cross, 1982:150-151). Therefore, information should be presented to employees in such a way that it takes into account their goals and their attitudes towards education. It should be clear, accurate, unbiased and relevant to the recipient, and should be given to them in a form and at a pace which is most useful to them (Bailey, 1987:50).

Also, to meet the goal of both informing and persuading employees, the information given to employees needs to be comprehensive. Therefore, the following details on each of the open learning courses should be provided for employees (Bailey, 1987:59-60):
- The aims of the course.
- The contents of the course.
- Who it will be relevant for.
- The learning approach which underlies the course.
- The teaching level of the course, whether introductory, intermediate or advanced.

- Any prerequisites to usage of the course, and whether they are optional or enforced.
- The scope and flexibility of the course (i.e. what learning media are used, how the materials are divided and sequenced, the estimated study time per module, and the options for qualifications which exist).
- What sort of support is provided with the courses.
- How the package can be used most effectively.

Besides this, a variety of information channels should also be used to publicise open learning within the organisation (Bailey, 1987:157-162). Channels which could be used would include:
- Information packs
- Brochures
- Directories
- Weekly report sheets
- Open days / drop in centres (where sample open learning courses can be displayed and used).
- Promotional videos
- Seminars and workshops
- Word of mouth
- Noticeboard / posters
- Videoscreens.

Organisations may be unable to provide all, or perhaps even most of these channels. However, the more channels which are used, the greater the chance that information on open learning will be properly disseminated within the organisation.

4.7.5.1 Organisational Practice

All the organisations examined utilised publicity to a greater or lesser extent. For instance, the ESB were of the opinion that for open learning to succeed it must be actively marketed and publicised. Also, Rover ensured that all their employees were informed about the learning centres, and encouraged to use them.

However, the success of such publicity did vary, and it was one area where most of those contacted acknowledged that they needed improvement. For example, when Aer Lingus initially sent out publicity on open learning it did lead to an initial high level of interest, but this soon died down. This led them to examine ways in which they could market these materials more effectively, particularly among higher management.

A wide range of publicity channels were used by organisations, including course directories, word of mouth, video, noticeboards and videoscreens. For example, Rover circulated booklets containing a listing of open learning courses to all of its employees on a regular basis. Also, information on their learning centres was communicated by means of weekly reports, noticeboards and videoscreens around Rover's sites.

In most of the European organisations, publicity was geared towards management. This was particularly true of organisations such as Abbey National, where employees were nominated by managers to use open learning materials. In this situation, the attitude of line managers to open learning was considered to be key to the success of open learning in the organisation. Nevertheless, other organisations such as Rover targeted both managers and staff equally by their publicity campaigns.

4.7.6 Support

Having an appropriate level of support was also considered to be a critical success factor. Support, in this context, is best defined as 'the arrangements made by an open learning scheme to provide help to the learners additional to that already contained in the learning package' (Lewis, 1987:91).

There has been an assumption, particularly in industry, that stand-alone packages (i.e. open learning materials without any support) are sufficient. However, this is refuted by a number of writers. As Sewart (1987:31) says, 'A package of materials, however sophisticated or well designed, cannot take the place of every essential facet of the teacher in the traditional teaching situation'. Essentially, an open learning package cannot answer all user questions or give advice, and it is unable to provide personal support for the user. Even when the open learning package is well thought out and designed, the learner may not understand its contents. Also, it is unlikely that stand-alone open learning courses will be able to adjust to the learning style or I.Q. of individual employees. If a teacher or tutor were present, this lack of comprehension could be quickly identified and dealt with. But a learner using a stand-alone package cannot depend on such support.

There are also a number of problems which can arise in organisations when no support is provided with open learning. First, the use of open learning can be seen as somewhat threatening by employees who are not confident in independent study. Second, usage of open learning can lead to problems of isolation, loneliness and helplessness. Third, these can result in the employee rejecting the whole package (Webberly, 1986:53). This outcome is particularly likely with adult learners, who are easily de-motivated by learning difficulties (Woodley, 1987).

However, bringing in a course tutor from outside the organisation would

probably not be appropriate, since they would be unlikely to have sufficient knowledge concerning company procedures, and might have a tendency to approach situations from an academic, rather than a practical base. A solution to this dilemma would be to provide support from within the company rather than bringing it in from the outside (Lewis, 1987:92). Such 'internal' support would provide the following types of assistance for employees (Bailey, 1987:93-94 & Manpower Services Commission, 1988:D19):

- Help in using open learning media.

- Help in identifying individual learning needs and choosing appropriate packages.

- Help in developing appropriate study skills such as writing, memorising, critical thinking and setting goals.

- Help in understanding the content of open learning courses.

- The provision of self-help study groups.

It should be noted that the more types of support which are available, the greater the number of employees who will feel comfortable using it. Nevertheless, whatever methods of support are chosen by the organisation, it is important that those who provide this support have good co-ordination and facilitation skills (Lewis and Spencer, 1986:62-64).

4.7.6.1 Organisational Practice

Certain organisations, such as Aer Lingus, Ericsson and BULL provided a minimal level of support for their employees. Support in these organisations was limited to helping employees find open learning materials and operate the relevant media.

However, other organisations provided a higher level of support for their employees. For example, the ESB and Rover supplied full-time co-ordinators

at each of their learning centres, who could guide employees and help them to identify their needs and interests. In the ESB, co-ordinators had the responsibility of providing basic assistance and direction to employees who were unfamiliar with open learning, while also liaising with the employees' supervisors. Rover ensured that staff responsible for open learning facilitation were familiar with open learning courses and were therefore able to assist learners with hardware, software and course content. They considered that this was crucial for making the SPI service accessible to users from a range of educational backgrounds.

Other types of support were provided by other organisations. For instance, British Telecom, San Paolo Banking Group and FAS all provided group and workshop support to employees, following on from their usage of open learning courses. However, in only one organisation (Rover) was any subject tutoring provided.

4.7.7 Formalisation

Another critical success factor identified was that of formalisation. This is a term which refers to a number of ways in which employees can be encouraged to use open learning materials through formalising their use of open learning courses, and thereby restricting their freedom of choice.

In fact, participation problems can arise where an open learning system is so open that there are no constraints on whether employees get involved or not (Kaye, 1991). This is especially a problem when employees have conflicting priorities (such as being very busy in work), and are not creating the time and space needed to use open learning. Yet studies have shown that a certain amount of formalisation is both helpful to, and appreciated by employees (Mann, 1988:42). As Lewis and Spencer (1986:27) say

'sometimes what looks like a closed characteristic is deliberately built into a scheme for the benefit of learners'.

There are a number of ways in which the level of formalisation in an open learning scheme can be increased. First, through scheduling time-slots for employees to use open learning (Mann, 1988:42). Second, through using assignments, workshops, and workbooks/exams alongside the open learning courses. Third, by following-up open learning courses with group learning, or by making usage of open learning a prerequisite for entry to formal training courses. Fourth, by using training and development plans, drawn up jointly between employees and managers, as the basis for usage of open learning.

4.7.7.1 Organisational Practice

Organisations used various means for increasing the level of formalisation in the workplace. Within Rover, booking procedures were used to ensure that the open learning media were fully utilised and that users always had access to their chosen course. Organisations involved in distance learning (FAS, CERT and IPA) used assignments, workshops, workbooks and exams alongside the open learning materials.

In a number of organisations, such as the San Paolo Banking Group, BULL and British Telecom, employees only used open learning courses when nominated by their line managers, or because they were required to use them. In other organisations, such as Rover, employees decided themselves whether or not they would use open learning courses. However, the most promising area of formalisation was where usage of open learning courses was based on individual training plans, drawn-up between managers and their staff, such as was used by Abbey National and the ESB.

4.8 Summary

The Literature and Organisational Practice review showed why organisations used open learning, how they used open learning, and what the critical success factors were in implementing and running an open learning scheme. This completed the first part of the Diagnosis stage of the research. However, the next step needed (in the Diagnosis stage) was to determine how SPI was being used in Digital, which is shown in the next chapter.

CHAPTER FIVE - DIAGNOSIS (3)

5.1 Introduction

The next step of the Diagnosis stage was to examine the actual situation at Digital, to see to what extent the prescriptions provided by the Literature and Organisational Practice actually applied to SPI in Digital. This was accomplished by examining the logbook of SPI usage, and by undertaking pilot interviews and final interviews.

5.2 Description of SPI at Digital

Before looking at the research undertaken, it would be useful to provide a brief picture of the SPI system which was in use at Digital. Essentially, the form of open learning / SPI being used by Digital was based on a learning centre model. The learning centre itself was located centrally in the main building of the European Software Supply Business (ESSB). It was small, surrounded by four foot high partitions, and open at both ends. The media which were available at the centre consisted of a video player, a PC and an interactive videodisc.

Most of the SPI courses in the learning centre were on video, and were designed for group, rather than individual use. The rest of the courses were on text, computer, audio-tape and interactive videodisc. The majority of the SPI courses were related to general development, while the rest of the courses were mainly related to languages and technical topics.

Employees were free to use the courses at the learning centre anytime the building was open. They could also bring them home. As employees used

or borrowed the SPI courses, they noted this in a logbook which was kept in the learning centre. Although there was no full-time co-ordinator at the learning centre, this position was filled to some extent by the secretary of the Training department, who helped employees to find and use SPI courses when she was able to do so.

5.3 Focus of Internal Research

The aim of this part of the research was twofold. First, to focus on the main objective of the research, i.e. 'To help Digital understand the applicability of SPI to the types of work and jobs done in the ESSB and to provide guidance in optimising their investment in SPI'. Second, to determine why it was that SPI was not being used as much as Digital would have wished.

These research objectives were accomplished by:

(1) Examining the logbook where a record of SPI usage was kept, to establish what the actual usage of SPI was.

(2) Pilot interviews with fifteen employees, to find out their experience of using SPI, and to uncover the key factors influencing the effectiveness of SPI in the organisation.

(3) Final interviews with sixty employees to examine and assess the key factors identified.

5.4 Logbook Research

The first stage of the data collection at Digital was to examine the logbook of SPI usage, which was kept in the Learning Centre at the ESSB. The time period examined was from November 1989 to April 1991 (a period of 17 months). This was done for the following reasons:

(1) To measure the level of SPI usage at Digital (which had not been previously measured).

(2) To establish which SPI courses and which media were being used, and to what degree.

(3) To find out which departments were using SPI, and to what extent.

5.4.1 Main Findings

The main findings from the analysis of Logbook data were as follows:

• While a significant number of employees had used SPI courses (about 47% of all employees had used it over a seventeen month period), most of them had used SPI very infrequently (see figure 5.1).

Figure 5.1
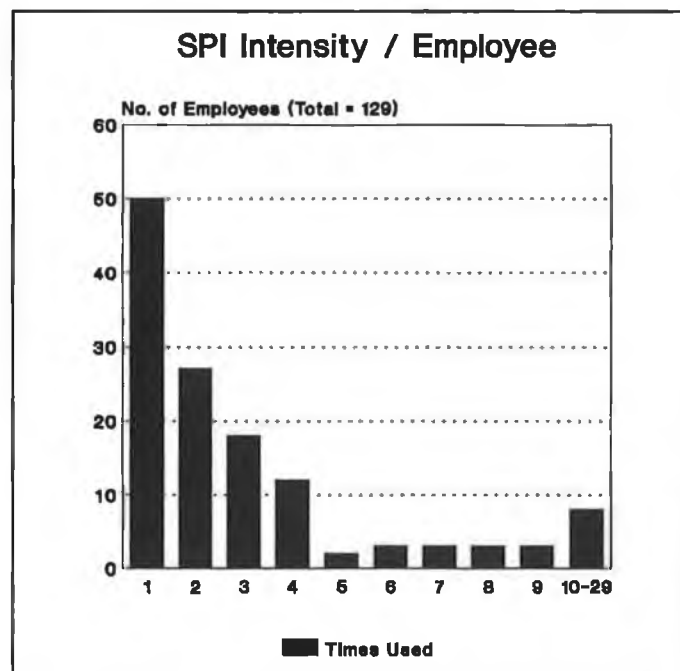
As can be seen, over a third of employees who used SPI, only used it once over a 17 month period. Three quarters used it three times or less over the same period. This data revealed that while a high percentage of employees had used SPI, only a few seemed to have adopted it. It also suggested that a number of employees had used SPI, but then decided not to use it again (possibly because of a bad experience when using SPI).

It should be noted that for the purpose of this research, adoption was defined as using SPI courses 3-4 times over a 12 month period (which was equivalent to using it five times or more over the 17 month period which was examined). This figure was based on studies which suggested that 3 successive uses of a product was a reasonable basis for defining brand loyalty, and therefore adoption (since brand loyalty demonstrates the commitment of the consumer to the continued use of a product) (Engel, Blackwell and Kollat, 1978:441). This measure of adoption suggested that only 17% of users had adopted SPI, or 9% of all employees at Digital.

• The level of usage of the SPI media (ie. video, text, computer, audio tape and interactive video) was fairly consistent with the number of SPI packages which utilised each of the media. For instance, video accounted for 57% of SPI media usage, while 59% of SPI courses were videos. This suggested that employees had no obvious preferences for any of the SPI media.

• There were obvious differences in the relevance of SPI courses to different departments (see figure 5.2).

Figure 5.2

Departmental Usage of Courses
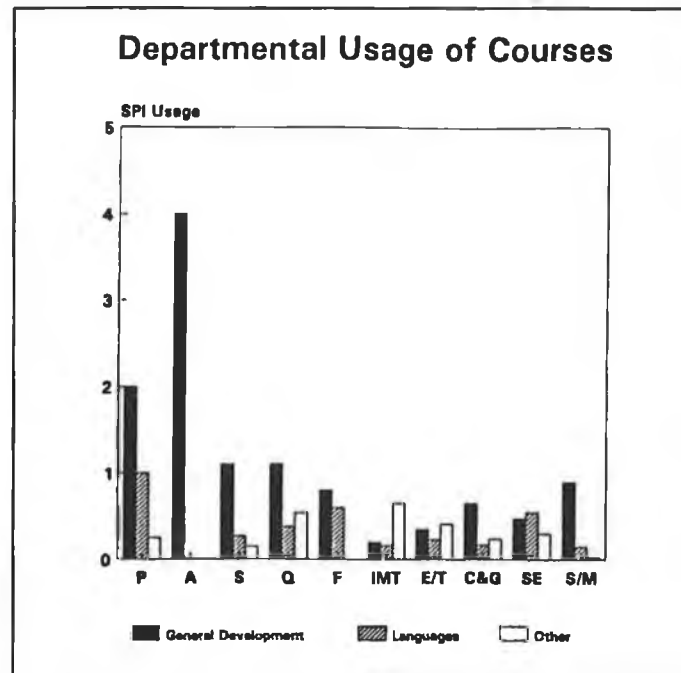
The above bar chart shows the average number of times each employee in each department[2] used different types of SPI courses. For the sake of comparison, SPI courses were divided into General, Language and Other categories. General courses mainly related to basic skills (e.g. making a presentation, dealing with conflict, making decisions, dealing with customers), while courses in the Other category were mainly concerned with technical topics. As can be seen, there were major differences in the types of courses being used by departments. This suggested that the usefulness and relevance of particular SPI courses was significantly different for the various departments. This was particularly true of General courses, which the Technical and Engineering departments used far less frequently than other departments.

[2] (P) - Personnel; (A) - Administration; (S) - Supply; (Q) - Quality; (F) - Finance; (IMT) - Information Management and Technology; (E/T) - Engineering and Technology; (C&G) - Cup and Graphic Design; (SE) - Software Engineering; (S/M) - Software Product Management and Marketing.

• There were obvious differences between the participation rates of departments[2] (where participation rate was defined as the percentage of employees in each department who used SPI over the 17 month period). It should be noted that, due to redundancies and movement of employees between departments, the total number of employees who were recorded as using SPI in each department, could be more than were in the department at the time of research[3] (see figure 5.3).

Figure 5.3
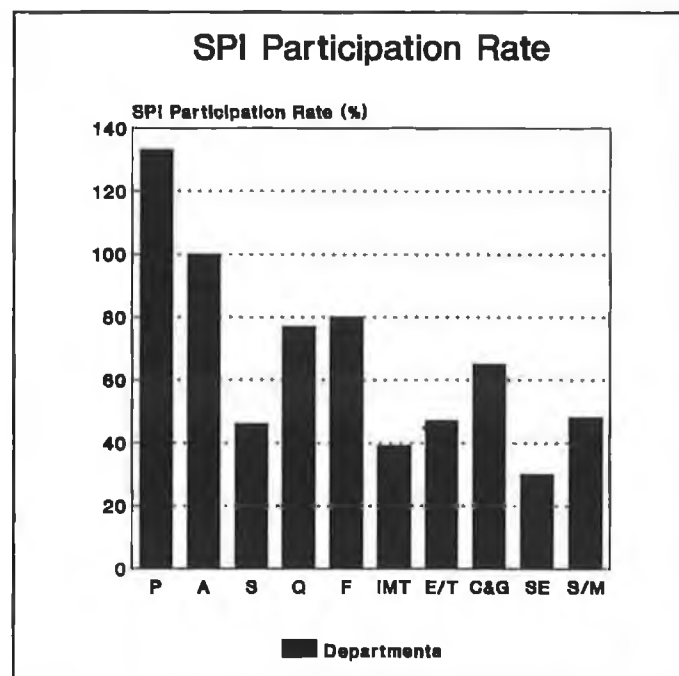
SPI Participation Rate

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[2] (P) - Personnel; (A) - Administration; (S) - Supply; (Q) - Quality; (F) - Finance; (IMT) - Information Management and Technology; (E/T) - Engineering and Technology; (C&G) - Cup and Graphic Design; (SE) - Software Engineering; (S/M) - Software Product Management and Marketing.

[3] For instance, there were 12 employees working in the Personnel Department at the time of the research. Therefore, 12 was assumed to be the basic size of the Personnel Department. However, 16 different employees (who had worked in the Personnel Department over the 17 month period recorded in the logbook) used SPI, i.e. there was a 140% participation rate.

- There were differences between the rate of intensity of departments[4] (where rate of intensity was defined as the average number of times each employee in the department used SPI over the 17 month period) (see figure 5.4).

Figure 5.4

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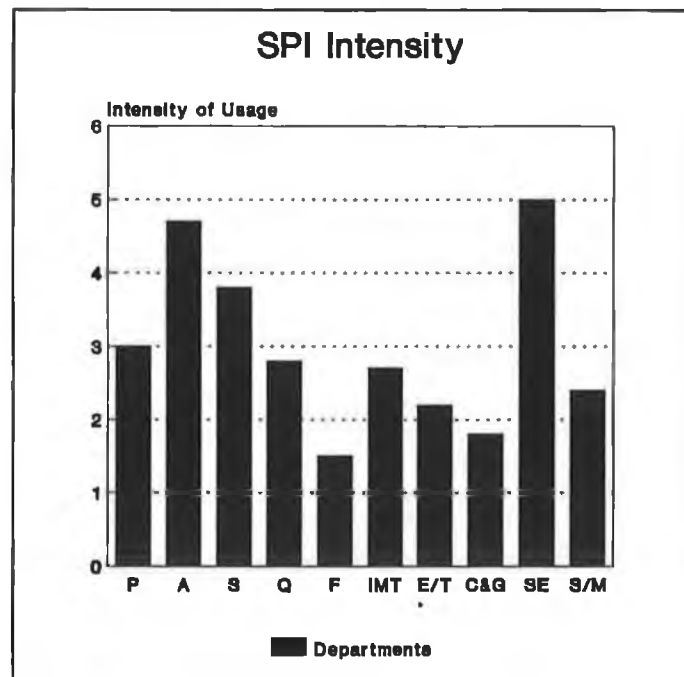
[4] (P) - Personnel; (A) - Administration; (S) - Supply; (Q) - Quality; (F) - Finance; (IMT) - Information Management and Technology; (E/T) - Engineering and Technology; (C&G) - Cup and Graphic Design; (SE) - Software Engineering; (S/M) - Software Product Management and Marketing.

5.5 Initial Interviews

The logbook analysis was then followed by fifteen interviews, which sought to find out; (i) why employees did and did not use SPI courses, (ii) how useful they found them to be, and (iii) what barriers they experienced when using SPI.

Fifteen employees (from a variety of departments) were interviewed in August 1991. Eleven of the employees who were interviewed were targeted because the logbook had identified them as high users of SPI (the other four interviewees had not used SPI at all) (See Appendix E for a listing of questions which were asked).

The main outcome of this section of the research was that it revealed why employees did or did not use SPI courses, i.e. the motivators and barriers which they experienced.

5.5.1 Motivators to use SPI

There were five aspects of SPI which motivated employees to use SPI courses.

(1) Self Development. The opportunity which SPI provided for employees to develop themselves was the main reason mentioned by them for using SPI courses.

(2) Relevance to Job. Some employees used SPI because they considered it to be relevant to their jobs.

(3) Available Anytime. The ability to get information when it was needed

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was considered to be a particular advantage of SPI.

(4) Access to Experts. A few employees mentioned that SPI gave them access to experts who would not be otherwise available.

(5) Greater Control over Own Learning. Some employees mentioned that SPI allowed them to learn at their own pace. SPI was also a preferred learning style for a few of the employees.

5.5.2 Barriers to SPI Usage

However, there were eight barriers which employees experienced when using SPI.

(1) Inappropriate SPI courses. A number of SPI courses were not considered to be relevant to employees' jobs. In particular, some employees considered that the range of SPI materials was too narrow, that the content of materials was too general and that some courses were out of date.

(2) Time Pressure. Some employees felt that they didn't have enough time to use SPI at work, although lack of time outside of work was also mentioned.

(3) Poor Learning Environment. The Open Learning Centre was considered to be too exposed, and too prone to interruptions and distractions.

(4) Lack of Information. There was not sufficient information on what SPI courses were available, and how they were relevant to employees' jobs.

(5) Technology-Use Problems. Employees had problems with using open

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learning media, particularly interactive video.

(6) <u>Other's Perception</u>. Some employees were concerned about what other employees would think if they were seen to be using SPI courses during working hours. Others felt that because only a few people used SPI that it couldn't be much good, or relevant to their particular department.

(7) <u>Lack of Support</u>. Some employees said that they needed someone to help them understand the content of SPI courses.

(8) <u>Unfavourable Comparison with other forms of Training</u>. A number of employees compared SPI unfavourably with other forms of training. They considered that using SPI would require more self-discipline, and would be less interesting and stimulating than other forms of training, particularly since SPI provided less interaction with other employees.

5.5.3 Five Factors

When these five 'motivators' and eight 'barriers' were examined more closely, five factors which seemed to be influencing the effectiveness of SPI in Digital were identified:

(1) SPI Materials, i.e. the extent to which SPI courses were relevant and appropriate for employees.
(2) Motivation, i.e. the degree to which employees were motivated to use SPI courses.
(3) Publicity, i.e. the extent to which employees were informed about SPI, and persuaded to use it.
(4) Social Influence, i.e. the degree to which employees were being influenced in their usage of SPI by others within the organisation.

(5) Time and Scheduling, i.e. the extent to which employees were experiencing difficulties in setting aside sufficient time to use SPI courses.

5.6 Final Stage of Internal Research

The final stage of the internal research was then undertaken with a twofold goal. First, to understand more fully how the above five factors were influencing the usage of SPI in Digital. Second, to provide Digital with specific recommendations which would improve the effectiveness of SPI in the organisation. To do this, a number of pilot interviews, followed by final interviews, were undertaken.

5.6.1 Pilot Interviews

Fifteen employees from a variety of departments were interviewed in March / April 1992, using a structured interview format. Seven of those interviewed had used SPI, while eight had not. As a result of new data which had come to light in the pilot stage, the five 'motivators' and eight 'barriers' were then examined more closely, and a revised set of five factors which were considered to be influencing the effectiveness of SPI were identified, as shown in figure 5.5.

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Figure 5.5

Figure 5.5

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┌─────────────────────────────────────────────┐
│                                               │
│              Five Factor Model                │
│                                               │
│  SPI Course          Awareness               │
│  Content and            │          Culture   │
│  Relevance              ▼                     │
│           ↘      ┌──────────────┐  ↙         │
│                  │ Effectiveness │            │
│                  │   of  SPI     │            │
│           ↗      └──────────────┘  ↖         │
│  Time and                      Learning       │
│  Scheduling                    Centre         │
│                                               │
└─────────────────────────────────────────────┘
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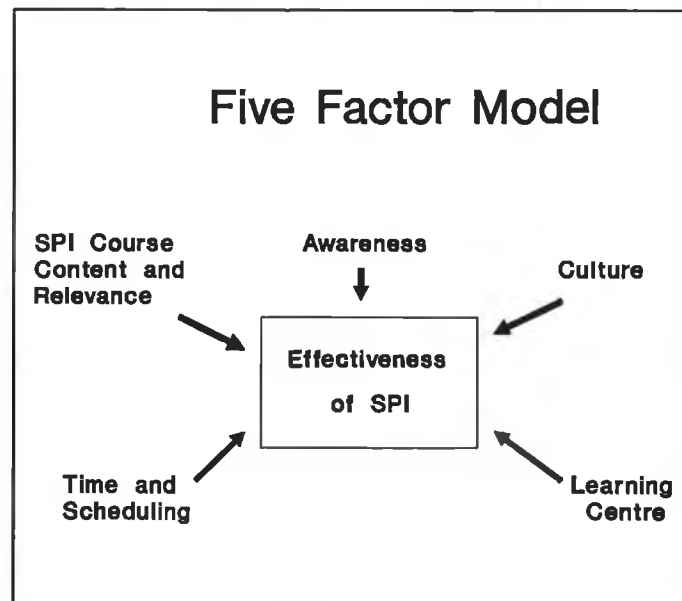
The way in which the motivators and barriers were subsumed into these five factors is shown below.

(1) <u>SPI Course Content and Relevance</u>. Some employees considered that SPI courses were relevant to their job-related or personal development needs, while others did not. Some employees considered that the content of SPI courses was inappropriate (e.g. out of date). Other employees liked the way that SPI gave them access to 'experts' and gave them a greater degree of control over their own learning.

(2) <u>Awareness</u>. A number of employees did not know what SPI courses were available, or in what ways they were relevant to their jobs - but others did.

(3) <u>Culture</u>. A number of those interviewed were concerned about the response of their managers and peers if they used SPI, but others did not

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express any such concern. Some of those interviewed felt that because they only saw SPI being used by a few employees that it could not be much good, or relevant to their work.

(4) <u>Learning Centre</u>. Most employees who had used the learning centre had experienced problems with its' location, layout and learning environment. Some employees had difficulty in using the SPI media, particularly the interactive video. Also, a few employees said that they needed someone to help them understand the content of SPI courses.

(5) <u>Time and Scheduling</u>. Some employees found it difficult to set aside sufficient time to use SPI, but others did not.

5.6.2 Final Interviews

Sixty employees were interviewed in May/June 1992, using a standardised interview schedule (see Appendix F). The breakdown of those interviewed was as follows:

- Thirty-two had used SPI during the previous year, while twenty-eight had not.
- Twenty-two were managers, while thirty-eight were staff.
- Thirty-one were from Technical departments (i.e. Information Management and Technology, Engineering / Technology, Software / Engineering, Software Product Management and Marketing, and Cup & Graphic Design); nineteen were from the Supply department and ten were from Administrative departments (i.e. Quality, Finance, and Personnel/Training).

It should be noted that different interview schedules were designed for various manager / staff groupings within the organisation (see Appendix F).

5.6.2.1 Approach Taken

Interviewees were carefully selected so that they would be representative of the employee population at the ESSB, and were initially targeted using a stratified sampling technique. They were targeted because they were either users or non-users; and either employees or managers; and either members of the Administrative, Supply or Technical departments. Within this stratification, both managers and employees reporting to them were sought to be interviewed.

The interviews themselves varied in length from 15 minutes (typically true of staff who had not used SPI) to 35 minutes (typically true of managers who had used SPI). Questionnaires utilised a mixture of open and closed questions, since both qualitative and quantitative information was being sought. A number of five-point scales were also used, to measure employee attitudes.

5.6.2.2 Analysis of Data

Once the data from the 60 interviews was collected, it was then inputted on to computer, and a number of tests were run, using SPSS-X. These tests are described below.

(i) A Frequencies analysis was done on all the data, to determine the frequency of answers given by interviewees.

(ii) A Crosstabs analysis was used, to compare and contrast the answers given by users and non-users, managers and staff, and those working in the Administration, Supply and Technical departments.

(iii) T-tests were then used to determine whether the results from the Crosstabs analysis were actually statistically significant. T-tests were chosen as the appropriate statistical method, because of the size of the groups being

tested (there were between 25 and 30 in each of the groups) (Fink and Kosecoff, 1985:75).

The results from the analysis of this data are presented in the next chapter.

CHAPTER SIX - FINDINGS FROM FINAL INTERVIEWS

6.1 Introduction

The results from the analysis of the data from the final interviews are presented in this chapter. The chapter itself is divided into the following sections:

- Level of SPI Usage
- How SPI has been Used
- Why SPI was not used
- Employee Ranking of Five Factors
- SPI Course Content and Relevance
- Awareness of SPI
- Time and Scheduling
- Learning Centre
- Culture
- Conclusions

6.2 Level of SPI Usage

The first question asked (as shown in Table 6.1) sought to establish (i) how many of those who were interviewed had used SPI and how many had not used SPI, and (ii) how often SPI was used by those who had used SPI.

Table 6.1 - How often did you use SPI in the last year ?

	No. of Respondents	%
0 Times	28	47
1 - 2 Times	13	22
3 - 5 Times	16	27
6+ Times	3	5
	60	101*

N = 60 Respondents

* Due to rounding of percentages

As can be seen, of the 60 employees who were interviewed, 32 had used SPI in the 12 months previous to the interview, while 28 had not. This level of usage actually compared quite well with the level of usage at Rover (the only other organisation looked at which used a learning centre, and had measured its level of usage). Approximately 2.3% of Rover's employees were using the learning centres per week - while the comparative figure for Digital was 3%. However, Rover believed that the participation rate of employees would increase quickly (they expected that 18 months after the introduction of learning centres that half of their employees would be using the learning centres per annum). Although it is not known whether or not Rover actually reached this target, it was quite a bit higher than the 33% per annum

participation rate which Digital had attained.

6.3 How SPI Has Been Used

The data which was collected on the 32 users of SPI is presented below, and shows where SPI courses were used, when they were used, why they were used, and how they were used.

6.3.1 When SPI Was Used

Table 6.2 - When did you use SPI ?

Time of Usage	No. of Respondents	%
Mainly after working hours	14	44
Mainly during working hours	. 13	41
Used equally	5	16
	32	101*

N = 32 User Respondents

* Due to rounding of percentages

SPI was used as frequently after working hours as it was during working hours. Although this seemed surprising, it should be noted that other organisations such as the ESB also found that a unexpectedly large number of employees were using open learning courses outside of working hours.

6.3.2 Where SPI Was Used

Table 6.3 - Where did you use SPI courses ?

Location of Usage	No. of Respondents[*]	%
Home	20	63
Open Learning Centre	18	56
Office	7	22
Other	8	25

N = 32 User Respondents

* Some respondents gave more than one answer (11 gave two answers, and 5 gave three answers).

Respondents used SPI at Home to a slightly greater extent than they did in the Open Learning Centre.

When asked why they chose to use SPI at home rather than in the Open Learning Centre, those interviewed gave three basic reasons: first, because they considered home to be more convenient and comfortable than the Open Learning Centre: second, because they had more time to use SPI at home; and third, because they found it easier to concentrate at home. It is interesting to note that two of the three reasons mentioned (i.e. time and ease of concentration) were areas in which respondents had experienced problems when using the Open Learning Centre, which suggested that maybe a number of employees were using SPI at home because of problems which they had experienced when using the Open Learning Centre.

6.3.3 Level of Completion of Courses

Most of those interviewed completed the SPI courses which they used (82% of courses were completed v. 18% of courses not completed). This was not surprising, since most of the SPI courses were quite short and based on a single module. However, it did suggest that drop-out (i.e. where an employee begins, but does not complete a course) was not a problem in Digital.

6.3.4 Why SPI Was Used

Table 6.4 - What was your main purpose or reason for using SPI courses?

Reason for Using SPI	No. of Reasons	%
Job-related	57	60
Personal development	23	24
Using on behalf of others	13	14
Other	2	2
	95	100

N = 95 reasons, given by respondents.

This question was asked to find out why those interviewed had used SPI, i.e. what their goal was in using SPI. There were 95 different SPI courses which respondents could remember using in the previous 12 months. Most of these courses were used for job-related reasons. A number of the courses were used for personal development reasons (i.e. courses which were not strictly tied in with respondents present jobs, such as languages).

Also, a number of those interviewed used SPI on behalf of others. Some of them used SPI to help them to train others (e.g. seeing how someone else delivered a course on a SPI package, in order to get pointers for delivering the same type of course). Others used SPI to 'test' it or 'try it out' on behalf of others (mainly managers seeing how relevant SPI courses were for their staff, or employees seeing how relevant SPI courses were for their work-group or department).

Even though this phenomenon of open learning courses being used on behalf of others has been experienced by other organisations, it was the opinion of one open learning consultant (Wafer, 1993) that the percentage of respondents in Digital who did so was twice as high as would have been expected.

Table 6.5 - How the decision to use SPI was triggered

How decision was triggered	No. of Respondents*	%
Awareness of specific need	19	59
Recommended by another	15	47
Publicity	5	16
Other	12	37

N = 32 User Respondents

* Some respondents gave more than one answer (17 gave two answers and 1 gave three answers).

For most respondents, the decision to use SPI was triggered by an awareness of a specific need. Nevertheless, almost half of those interviewed said that their decision to use SPI was triggered by a recommendation from another person. In most cases this 'other' person was the manager they reported to,

although other employees (i.e. peers), were also mentioned. This result suggested that a number of employees needed encouragement or direction (particularly from their managers), before they would use SPI.

6.3.5 Assistance Required in Using SPI

Table 6.6 - What sort of help or support would have made your usage of SPI easier and more effective ?

Help / Support	No. of Respondents*	%
More information on SPI courses	15	48
Facilitator	9	29
No help / support needed	7	23
Instructions on using media	6	19
Other	8	26

N = 31 User Respondents (one missing response)

* Some respondents gave more than one answer (8 gave two answers and 3 gave three answers).

The main answer given by those interviewed was that they wanted more information on SPI courses. In particular, they wanted a greater level of information on what courses were available, who they were relevant for, and what the content of the courses were.

Also, a number of employees said that they needed help from a facilitator, who could help them to find SPI courses, and use SPI media. Some respondents specifically mentioned that they needed instruction on how to use the SPI media.

As can be seen, the majority of respondents said that they needed help in finding and using SPI courses. This confirmed the experience of other organisations, where a basic level of support was found to be required for employees to be able to use open learning effectively.

6.3.6 Intention of Re-Using SPI

Table 6.7 - Do you intend using SPI again ?

Intention of Re-Using SPI	No. of Respondents	%
Yes	29	91
Don't know	3	9
	32	100

N = 32 User Respondents

This question was asked to determine to what extent respondents who had used SPI, had then decided not to use it again. The vast majority of those interviewed said that they intended using SPI courses again, while none of them said that they would not use SPI again.

This result was unexpected, particularly since the low level of usage of SPI had suggested that a number of employees had used SPI, and then decided not to use it again (possibly because they had a bad experience when using SPI). However, whatever effects a bad experience in using SPI may have had on respondents, it did not stop them from intending to use SPI again, though it may have hindered them from actually doing so.

6.3.7 How SPI Has Been Used - Evaluation

An interesting picture emerged from the replies given in this section. The same proportion of respondents were using SPI after, as were using SPI during working hours. Also, the same proportion of respondents were using SPI at home, as were using SPI in the Open Learning Centre. There were also a variety of reasons as to why respondents used SPI courses, suggesting that employees who used SPI were deciding for themselves why they used SPI.

Overall, it seemed that respondents had taken advantage of the flexibility which SPI courses afforded them, since they had used SPI courses for different reasons, at different times, and in different locations. More importantly, this also suggested that they had taken a greater degree of control over their own learning, as a result of using SPI courses.

6.4 Why SPI was Not Used

Table 6.8 - Why haven't you used SPI ?

Reasons for not using SPI	No. of Respondents*	%
Too busy	18	64
Lack of Urgency	14	50
SPI not relevant to job	8	29
Difficulty in using SPI after working hours	6	21
Lack of Awareness of SPI	5	18
Other	9	32

N = 28 Non-User Respondents

* Some respondents gave more than one answer (14 gave two answers, 7 gave three answers and one gave five answers)

This question was only asked of the 28 non-user respondents, and sought to determine why they had not used SPI within the previous 12 months. The majority of interviewees said that they did not use SPI because they were too busy, i.e. they didn't have enough time to use SPI, or because of a heavy workload.

A number of interviewees gave reasons for not using SPI which pointed towards a lack of urgency on their part (e.g. 'haven't seen need for it', 'never got around to using SPI', 'SPI is not compulsory'). Some respondents did not use SPI because it was not considered to be relevant to their jobs, while others did not use SPI because of difficulty in using SPI after working hours, or because they were not aware of what SPI courses were available.

These replies suggested that employees had not used SPI because they were

essentially unable to use SPI (or only with great difficulty), and/or because they were not particularly motivated to use it. However, it was not clear to what extent their non-usage of SPI was due to lack of ability or lack of motivation.

6.5 Employee Ranking of Five Factors

As part of the interview, respondents were asked to rank ten 'features' of SPI which they considered would be most likely to cause them to use SPI (if they were non-users) or to use SPI to a greater extent (if they were users). These ten features were actually components of the original five factors which had been identified. The findings from this question are shown in Table 6.9 (note that the lower the mean score, the more important the feature was to respondents).

Table 6.9 - Would you rank these features of SPI, in order of importance to yourself?

Component	Mean Score
(1) SPI relevant to job-related needs	2.18
(2) SPI relevant to personal development needs	3.77
(3) SPI understandable, interesting and enjoyable	3.95
(4) Comprehensive Publicity	4.33
(5) Enough time to use SPI	5.13
(6) Help available to find SPI and use Media	5.62
(7) Good location, lay out and learning environment	6.85
(8) Tutoring or group discussion	6.92
(9) Favourable response from managers	6.93
(10) Favourable response from employees	9.02

N = 60 Respondents

Interestingly, the top three of these features all related to one of the five original factors which had been identified - SPI Course Content and Relevance. This demonstrated that the relevance and content of SPI courses was the factor most likely to influence employees in their use of SPI.

The order of importance of the other four factors (based on the ranking of features) was as follows:
- <u>Awareness</u>, ranked second (related to feature number 4)
- <u>Time / Scheduling</u>, ranked third (related to feature number 5)
- <u>Learning Centre</u>, ranked fourth (related to features number 6 and 7)
- <u>Culture</u>, ranked fifth (related to features number 9 and 10)

The data of relevance to each of these five factors is examined below, with the factors presented in order of importance.

6.6 SPI Course Content and Relevance

With regard to this factor, respondents were asked a number of questions which sought to determine: (i) how effective SPI was in meeting their needs; (ii) why SPI was ineffective in meeting these needs (where this was the case); and (iii) how appropriate SPI was as a form of training for Digital.

6.6.1 Effectiveness of SPI in Meeting Needs

Respondents were asked how effective they considered SPI to be in meeting their job-related and personal development needs.

Table 6.10 - How effectively can SPI meet your job-related needs ?

Level of Effectiveness	No. of Respondents	%
Effective	18	31
Neither effective or ineffective	16	27
Ineffective	20	34
Do not know	3	5
No job-related needs	2	3
	59	100

N = 59 Respondents (one missing response)

Table 6.11 - How effectively can SPI meet your personal development needs?

Level of Effectiveness	No. of Respondents	%
Effective	20	33
Neither effective or ineffective	15	25
Ineffective	15	25
Do not know	5	8
No job-related needs	5	8
	60	99*

N = 60 Respondents

* Due to rounding of percentages

As can be seen, similar numbers of respondents considered SPI to be effective, neither effective or ineffective, and ineffective in meeting both their job-related and personal development needs. This suggested that there

was a problem with the effectiveness of SPI within the organisation, particularly since only a third of those interviewed actually considered that SPI courses were effective in meeting their needs.

Surprisingly, there was no distinction in how user and non-user respondents answered this question - non users considered SPI to be just as effective in meeting their needs as users did. One possible explanation for this was that users had utilised SPI because they thought that it would be more effective in meeting their needs than non-users, but had then found it to be less effective than they originally expected.

6.6.2 Why SPI was Ineffective in Meeting Needs

Respondents were then asked why they considered SPI courses to be effective, ineffective etc., in meeting their job-related and personal development needs. A number of respondents gave reasons as to why they considered SPI to be ineffective, as shown below.

Table 6.12 - Why SPI was considered to be ineffective in meeting job related needs

Reasons given	No. of Respondents[*]	%
SPI courses not available	16	41
SPI not able to meet needs	14	36
Do not know what SPI courses are available	7	18
Other	13	33

N = 39 Respondents (who gave reasons why they considered SPI to be ineffective).

* Some respondents gave more than one answer (11 gave two answers).

Table 6.13 - Why SPI was considered to be ineffective in meeting personal development needs

Reasons given	No. of Respondents[*]	%
SPI not able to meet needs	11	31
Do not know what SPI courses are available	11	31
SPI courses not available	8	23
Other	10	29

N = 35 Respondents, (who gave reasons as to why they considered SPI to be ineffective).

* Some respondents gave more than one answer (5 gave two answers).

The main reason given by respondents for SPI being ineffective in meeting their job-related and personal development needs was that the SPI courses

required to meet these needs were not available (as one employee succinctly put it, "the SPI which I need isn't there and the SPI which is there, I don't need"). This suggested that to a large extent the SPI courses needed by employees were not available.

A number of respondents also commented that they were not aware of what SPI courses were available, which suggested that there was a problem with the internal marketing of SPI within Digital. Also, a number of respondents considered that SPI (in its present form) was not able to meet their needs i.e. some sort of interaction or facilitation was needed alongside it.

6.6.2.1 Managerial Perspective

To get a better idea of how effective SPI was in meeting employees' needs, manager respondents were asked to evaluate how effective SPI was in meeting the job-related needs of staff reporting to them.

Table 6.14 - How effectively can SPI meet the job-related needs of staff reporting to you ?

Level of Effectiveness	No. of Respondents	%
Effective	3	14
Neither effective or ineffective	8	36
Ineffective	10	45
Do not know	1	5
	22	100

N = 22 Manager Respondents

Most of the 22 manager respondents considered that SPI was ineffective in meeting the needs of staff reporting to them. As can be seen (when this table is compared with Table 6.10), manager respondents considered SPI to be much less effective in meeting the needs of staff, than staff respondents themselves did (only 14% of manager respondents considered SPI to be effective, as compared with 30% of staff respondents who considered SPI to be effective).

6.6.3 Appropriateness of SPI in Digital

Respondents were also asked what types of learning or training they thought SPI was the most effective for. Although a variety of answers were given, 47% of those interviewed said that they considered that SPI had a limited application to learning and training needs in the organisation. In fact, these respondents considered that there were only three basic areas in which SPI would be effective. First, as an introduction to a subject area. Second, where a specific set of tasks had to be learnt. Third, where simple and basic topics were being dealt-with, i.e. where topics were 'cut and dried', or the aim of the course was 'to bring the employee from novice to knowledgeable, but not from knowledgeable to expert'. Conversely, SPI was not considered by these respondents to be an effective medium for teaching complex or professional skills.

However, it should be noted that the above limitations would generally be true of most stand-alone and non-interactive open learning courses, as was the case with most of the SPI courses at Digital.

6.6.3.1 Applicability of SPI to Employees at Digital

The next step was to determine the extent to which SPI was perceived by interviewees to be more suitable for some employees than others.

Table 6.15 - For which employees do you think SPI is relevant ?

Which Employees	No. of Respondents	%
All	44	73
Other	16	27
	60	100

N = 60 Respondents

The majority of those interviewed considered that SPI was relevant for all employees. This demonstrated that whatever the reasons for certain departments / employees using SPI more than others, it was not (to any great extent) due to SPI being seen as intrinsically more relevant for some employees than others.

6.6.4 SPI Course Content and Relevance - Evaluation

To a large extent, respondents considered that SPI courses were ineffective in meeting their job-related and personal development needs. This highlighted a major problem with SPI, since 84% of the SPI courses were used for either job-related or personal development reasons (as shown in Table 6.4).

However, the potential usefulness of SPI in the organisation was considered to be quite broad (nearly three quarters of those interviewed considered that it was equally relevant to all employees as a method / form of training). This suggested that SPI, as a concept, was positively perceived by most employees. Nonetheless, the fact that almost half of respondents considered that SPI had a limited application to learning and training needs in the organisation, suggested that SPI courses being brought-in would need to become more relevant to employees, and more interactive.

In essence, these findings were pointing towards the need for new SPI courses in Digital, which would be (i) relevant to employees needs and (ii) appropriate to the types of learning needed.

6.7 Awareness

With regard to this factor, a number of questions were asked of interviewees which sought to determine; (i) their level of awareness of SPI, and (ii) the channels of publicity which would be most effective in informing them about SPI.

6.7.1 Level of Awareness

In determining the level of awareness which respondents had concerning SPI, they were asked if they could (in broad terms) describe what SPI courses were located in the Open Learning Centre. If they had at least a basic level of knowledge concerning what SPI courses were held in the learning centre, they were assessed as having a Medium to High level of awareness. However, if they had a minimal level of knowledge, or no knowledge of what SPI courses were held in the learning centre, they were assessed as having a Low to Nil level of awareness. The results of this question are shown in the Table below.

Table 6.16 - Level of Awareness concerning SPI

Level of Awareness	No. of Respondents	%
Medium to High	26	43
Low to Nil	34	57
	60	100

N = 60 Respondents

Most respondents had a Low to Nil level of knowledge, which suggested that publicity in Digital was not as effective as it should have been. However, the level of awareness of SPI was significantly higher among users than it was among non-users (72% of users had a medium to high level of knowledge v. 11% of non-users). This distinction was of particular interest, since it was the only statistically significant[5] difference which was found between users and non-users.

6.7.2 Preferred Channels of Publicity

Table 6.17 - What form of publicity would be the most effective for informing you about SPI ?

Form of Publicity	No. of Respondents[*]	%
Computer	42	70
Text	21	35
Noticeboard	13	22
Word of mouth	7	12
Other	12	20

N = 60 Respondents

* Some respondents gave more than one answer (23 gave two answers, 5 gave three answers, and 1 gave four answers).

Most respondents considered that Computer based publicity would be most effective for informing them about SPI. Within Digital, computers were used to inform employees about SPI courses in two specific ways. First,

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[5] When user and non-user respondents were compared using a T-Test, the result was found to be statistically significant, with a 2-tail probability of .000.

Electronic Mail (E-Mail) was used to let employees know about new SPI courses, or to highlight those courses which might be of interest to a wide range of employees. Second, a database of information was available on computer, which was essentially a computerised 'catalogue' of SPI courses. However, a number of those interviewed (mainly manager respondents) mentioned that they received too much information via E-Mail (to the extent that the only read what was absolutely necessary), and would therefore prefer to use the computerised database system.

Some of those interviewed considered that Text based publicity (i.e. a catalogue of SPI courses) would be most effective for informing them about SPI, while others considered that a noticeboard would be. However, a few respondents were of the opinion that publicity which came by word of mouth (particularly by way of their managers) would be most effective.

6.7.3 Awareness - Evaluation

The overall level of knowledge concerning SPI was low within Digital. This pointed towards the need for a more effective and comprehensive internal marketing system, which would provide employees with a sufficient level of information about SPI courses, utilising mainly the channels of computer and text.

6.8 Time and Scheduling

For this factor, questions were asked which sought to determine; (i) the degree to which respondents had experienced difficulty in using SPI both during and after working hours, and (ii) what it was that would cause them to use SPI to a greater extent.

6.8.1 Difficulty in Getting Sufficient Time to Use SPI

Table 6.18 - Have you experienced difficulty in setting aside enough time during your working hours to use SPI ?

Experienced Difficulty	No. of Respondents	%
Yes	45	75
No	15	25
	60	100

N = 60 Respondents

The majority of those interviewed considered that they did have (or would have) difficulty in setting aside sufficient time during working hours to use SPI. When asked why they had (or would have) difficulty in setting aside time, respondents gave two main reasons. First, because of a heavy workload (mentioned by 67% of those interviewed). Second, because they needed to be in their office throughout the day (mentioned by 15% of those interviewed).

Similar numbers of both users and non-users said that they had (or would

have) difficulty in setting aside sufficient time during working hours to use SPI, which suggested that the same time constraints were being experienced by both groups.

Table 6.19 - Have you experienced difficulty in getting enough time after working hours to use SPI ?

Experienced Difficulty	No. of Respondents	%
Yes	25	42
No	35	58
	60	100

N = 60 Respondents

Most of those interviewed said that they did not have (or would not have) difficulty in setting aside time after working hours to use SPI. Those who said that they had (or would have) difficulty in setting aside time gave three reasons for this. First, because they were involved in external sports or study activities. Second, because they had to work long hours. Third, because of family responsibilities.

Interestingly, non-users considered that they would have more difficulty in setting aside time after working hours to use SPI than users did (57% of non-users said that they would have difficulty v. 28% of users). This distinction suggested that non-users had either less ability (due to time constraints) or were less motivated to use SPI than users.

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6.8.2 Circumstances Leading to Higher SPI Usage

Table 6.20 - What conditions or circumstances would cause you to use SPI / use to a greater extent, during working hours, than you already are ?

Basis for Usage	No. of Respondents*	%
Available and relevant	22	37
More time to use	18	30
Help with problem	18	30
Greater awareness of SPI	6	10
Agreed with manager	5	8
Other	15	25

N = 60 Respondents

* Some respondents gave more than one answer (24 gave two answers).

This question was asked with a twofold purpose. First, to determine what it was which would cause non-users to use SPI during working hours. Second, to determine what it was which would cause users to use SPI to a greater extent during working hours than they already were.

Most of those interviewed said that they would use SPI (or would use to a greater extent) during working hours if it was available and relevant. A third said that they would use SPI (use to a greater extent) if they had more time to use it ('if time were set aside to use SPI', 'if up-to date with work, and had time to look around'). A third of respondents also said that they would use SPI (use to a greater extent) if it would help with a particular and/or immediate problem, such as a deadline which had to be met.

Others mentioned that they would use SPI (use to a greater extent) if they were more aware of what SPI courses were available, or if their use of SPI

was agreed beforehand with their managers.

Table 6.21 - What conditions or circumstances would cause you to use SPI / use to a greater extent, after working hours, than you already are ?

Basis for Usage	No. of Respondents*	%
Meet specific need	18	32
Personal interest	15	26
Relevant to job	12	21
Other	25	44

N = 57 Respondents (three missing responses)

* Some respondents gave more than one answer (13 gave two answers).

This question was asked with the same twofold purpose as the previous question. As can be seen, similar numbers of respondents said that they would use SPI (or would use to a greater extent) after working hours if it would meet a specific need, if it was in an area of personal interest, or if it was relevant to their jobs. It should be noted that the category of 'specific need' probably overlapped with the category 'relevant to job' and possibly with the category 'personal interest'. However, it was not possible to ascertain the extent to which this was the case, based on the answers given.

Nevertheless, it was interesting that about a third of those interviewed were willing to use SPI courses after working hours to meet a specific need or because it was relevant to their jobs. This suggested that they had taken on board the idea that they were responsible for their own development, even if this meant using SPI outside of working hours.

Conversely, about a sixth of respondents said that they would only use SPI

if was in an area of personal interest. This suggested that they considered that their personal development should only take place during working hours.

6.8.3 Time and Scheduling - Evaluation

It seemed that the difficulties which respondents were experiencing in using SPI during working hours, were to some extent a result of the long hours which they were working. This implied that unless employees were motivated to use SPI, that they would be unlikely to use it.

Also, most respondents said that they would use SPI (or use to a greater extent), if it could help them with an important, specific and immediate need. This confirmed the importance of having SPI courses which were relevant to employees' needs.

6.9 Learning Centre

Earlier research (i.e. initial interviews) had suggested that most employees had difficulty in using the Open Learning Centre because it was too open, too exposed and too prone to interruptions. The findings from the final interviews confirmed this.

Findings from final interviews also showed that respondents had difficulty in using the SPI media. A number of those interviewed experienced problems when using the video player in the Open Learning Centre, mainly because they were not familiar with the controls, which were based on an American format. Others experienced problems with the PC and Interactive Video, since they found it difficult to use the technology, and to follow the content of the courses.

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Overall, most of problems which respondents experienced were due to their unfamiliarity with the media being used. A general complaint among those interviewed was that instructions on using the media were not available, or (if available) were not well laid out.

6.9.1 Learning Centre - Evaluation

The problems which were experienced by respondents in their use of the learning centre suggested a number of things. First, that employees needed help in finding and using SPI courses (a need specifically mentioned by 80% of user respondents in Table 6.6). Second, that clear instructions on how to use media needed to be posted up in the open learning centre.

In a wider context, these suggested two things which Digital needed to do. First, to provide a facilitator for the Open Learning Centre, who could meet employees' needs for support and facilitation. Second, to ensure that the Open Learning Centre was better laid-out and designed, so as to facilitate employees in their use of it.

6.10 Culture

Regarding this factor, questions were asked which sought to determine: (i) how manager respondents would react if staff reporting to them used SPI during working hours, and why they would react this way; (ii) how much improvement in job performance manager respondents would expect, due to SPI being used; and (iii) how other employees would react if their peers (i.e. staff respondents) used SPI during working hours.

6.10.1 Reaction of Mangers

Table 6.22 - How do you think managers you report to would respond if you used SPI during working hours ?

Expected Response	No. of Respondents	%
Favourable	26	58
Neither favourable or unfavourable.	7	16
Unfavourable	11	24
Do not know	1	2
	45	100

N = 45 Staff and Lower Management Respondents

This question was only asked of staff respondents and lower management respondents, since the question was not considered to be relevant for higher management respondents. As can be seen, most interviewees thought that managers they reported to would be favourable to them using SPI during working hours.

Table 6.23 - What would you think if staff reporting to you used SPI during working hours ?

Expected Response	No. of Respondents	%
Favourable	19	86
Neither favourable or unfavourable	2	9
Unfavourable	1	5
	22	100

N = 22 Manager Respondents

This question was asked of all manager respondents, and sought to compare the actual attitude of manager respondents, with what staff respondents thought their response would be. As can be seen, a majority of manager respondents said that they would be favourable towards employees using SPI during working hours. Interestingly, this majority was even larger than had been expected by staff respondents.

6.10.2 Reasons for Managerial Response

Both staff respondents and manager respondents were then asked to give reasons for the favourable, unfavourable etc., responses which they had mentioned. Their answers are compared below.

Table 6.24 - Why would the manager you report to respond (favourably, unfavourably etc.) ?

Expected Response	No. of Respondents	%
Favourable if...	21	47
Favourable (various reasons)	10	22
Unfavourable (various reasons)	9	20
Other	5	11
	45	100

N = 45 Staff and Lower Management Respondents

Table 6.25 - Why would you respond (favourably, unfavourably etc.) to staff using SPI ?

Actual Response	No. of Respondents	%
Favourable if...	12	55
Favourable (various reasons)	7	32
Unfavourable (various reasons)	1	5
Other	2	9
	22	101*

N = 22 Manager Respondents

* Due to rounding of percentages.

As can be seen (from Table 6.24), half of the staff respondents answered this question by stating that their managers would be 'favourable if'. By this they meant that they would expect a favourable response from their managers to them using SPI during working hours, but only under certain conditions.

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First, that the use of SPI would not interfere with staff respondents' work. Second, that the SPI being used would be relevant to their job-related needs. Third, that their usage of SPI would be based on agreement between management and themselves. Most manager respondents also stated that they would be favourable towards their staff using SPI during working hours, but only under certain conditions (Table 6.25). These conditions were the same as those mentioned by staff respondents.

The high percentage of both staff respondents and manager respondents who responded with a 'favourable if' answer, suggested that manager respondents were not actually as favourable to their staff using SPI as the previous Tables (6.22 & 6.23) had suggested. This seemed to be particularly the case, since the above 'conditions' for usage of SPI were to a large extent not being met by the organisation.

The main reason given by staff respondents for an expected favourable response to their usage of SPI, was that their managers were generally supportive of training. In comparison, the main reason given by manager respondents for an actual favourable response, was that usage of SPI showed that employees were taking responsibility for their own growth. For example, one manager respondent commented that where as formal training was seen by some employees as a sort of holiday, that the use of SPI reflected a definite desire to learn and a much more mature attitude towards learning.

The main reasons given by staff respondents for an expected unfavourable response to their usage of SPI was because of a heavy workload, or because they were expected to be at their desks during working hours. Essentially, they felt that SPI was considered by their managers to be an after-hours activity, and definitely not an appropriate use of company time. The reasons given by manager respondents for an unfavourable response were similar to

those mentioned by staff respondents.

6.10.3 Contribution of SPI to Job Performance

The next question (which was only asked of manager respondents) sought to determine the extent to which SPI was perceived to be contributing to the job performance of staff.

Table 6.26 - How much improvement in job performance would you expect from staff, as a result of their using SPI ?

Level of Improvement	No. of Respondents	%
High	4	18
Medium	12	55
Low	3	14
Do not know	3	14
	22	101*

N = 22 Manager Respondents

* Due to rounding of percentages

Most manager respondents said that they would expect a medium (or high) level of improvement in the job performance of their staff, as a result of their using SPI. However, 36% of manager respondents said that they would only expect a medium / high improvement in employees' performance, if the employees had the ability and the motivation to learn from SPI, and to apply what was learnt to their jobs. This suggested that a significant number of manager respondents considered that a member of their staff would require a minimum level of ability and motivation to be able to effectively use SPI.

Although this perception was somewhat contrary to the idea that all employees could (and should) be able to use SPI courses, it did fit in with the experience of a number of organisations, who found that not all employees could successfully use open learning, unless there was a high degree of support provided alongside it (Clarke, 1992).

6.10.4 Reaction of Other Employees

Table 6.27 - How do you think other employees would respond, if you used SPI during working hours ?

Expected Response	No. of Respondents	%
Favourable	14	31
Neither favourable or unfavourable	17	38
Unfavourable	12	27
Do not know	2	4
	45	100

N = 45 Staff and Lower Management Respondents

This question was only asked of staff respondents and lower management respondents. As can be seen, the majority of respondents considered that other employees (i.e. their peers) would be neither favourable or unfavourable towards them using SPI during working hours, since they felt that their peers were not concerned by what they did during working hours.

Those interviewees who expected a favourable response from other employees, did so for a number of reasons. First, because the perception of their peers was that it was OK to use SPI during working hours. Second,

because the culture of the department or work-group was favourable to individual development. Third, because the SPI courses being used were seen as being potentially useful to others in the department or work-group.

Those interviewees who expected an unfavourable response from other employees, did so for two basic reasons. First, because their peers expected them to be at their desks, and not somewhere else. Second, because usage of SPI would be perceived by other employees as meaning that the interviewees 'had no work to do', or that they were using SPI for themselves rather than for the job.

Interestingly, most of the respondents who thought that their peers would respond unfavourably worked fairly closely with others in groups. In contrast, most of those respondents who were not concerned by what their peers would think, tended to work on their own. This suggested that the attitude of peers had a significant influence on the usage of SPI courses, but only for those who worked in groups.

6.10.5 SPI Not Seen as Proper Training

Comments were made by various interviewees which suggested that they did not see SPI as a proper form of training, but rather as an excuse for getting off work. For instance, some interviewees commented that the usage of SPI would be perceived negatively by managers and peers since 'it was unfair that someone was away from work - entertaining themselves' and that they were 'here to work, not play with videos'. This perception was probably not helped by the fact that a number of the videos available had comedians such as John Cleese on them, which tended to reinforce the idea that SPI was for entertainment, and not really useful for training purposes.

Interestingly, similar reactions have been experienced by other organisations, where acts of self-development have tended to be regarded by some workmates as intrinsically wimpish or time-wasting and placing an unnecessary burden on the rest of a work-team (Temple, 1991:148-149).

6.10.6 Culture - Evaluation

As was mentioned, most manager respondents were only favourable towards their staff using SPI during working hours if they knew what SPI was being used, why it was being used, and that its usage was based on agreement. However, since these conditions were (for the most part) not being satisfied, it seemed that most manager respondents were in fact unfavourable towards their staff using SPI. Also, since nearly half of the respondents who used SPI did so on the basis of a recommendation by another (see Table 6.5), this suggested that the attitudes / opinions of others (particularly managers) had a significant influence on employees' use of SPI courses.

Overall, these findings suggested that <u>a more formalised approach to SPI (i.e. as part of a career plan)</u> would be an effective way of promoting the use of SPI within the organisation, since it would go a long way towards meeting the three 'conditions' which had been mentioned by manager respondents.

6.11 Conclusions

The findings from the final interviews showed how the five factors uncovered by pilot research were individually influencing the effectiveness of SPI, and suggested a number of basic recommendations which would need to be implemented by Digital, as shown below.

- Purchase new SPI courses, which will be relevant to employees needs and appropriate to the types of learning required by them.
- Establish a more effective and comprehensive internal marketing system, which will provide employees with a sufficient level of information about SPI courses.
- Improve the layout and design of the Open Learning Centre so as to facilitate employees in their use of it.
- Appoint a facilitator to the Open Learning Centre, who can meet employees' needs for support and facilitation.
- Base the usage of SPI on a career plan approach.

However, these findings did not explain why some employees had used SPI, and others had not. Without such an understanding, it would be difficult to determine what strategic approach should be used to increase the level of effectiveness and usage of SPI in Digital. Therefore further analysis of the findings was needed, in order to be able to determine what course of action should be recommended to Digital, as shown in the next chapter.

CHAPTER SEVEN - ACTION PLANNING

7.1 Introduction

The Action Planning stage of the research involved determining which course of action would increase the level of usage and effectiveness of SPI at Digital. This involved analysing the findings of the research and comparing what was found with relevant theoretical models, to see which model would provide the best strategic approach. This search led to a Diffusion of Innovations model.

7.2 Identifying a 'Strategic' Model

As was mentioned in the previous chapter, to be able to formulate a strategic approach for increasing the level of usage and effectiveness of SPI, it was necessary that the reasons why some employees were using SPI and others were not, was identified. Therefore, the literature and organisational practice were re-examined. However, neither the literature or organisational practice presented a clear picture of why it was that some employees used open learning, and others did not. The most frequent explanation (where one was given) was that employees who used open learning did so because they were more motivated than those who did not. This hypothesis was therefore evaluated using the Chain of Responses Model (which was explained in Chapter Three), as shown below.

7.2.1 Chain-of-Responses Model

Figure 7.1

Figure 4. Chain-of-Response (COR) Model for Understanding Participation in Adult Learning Activities
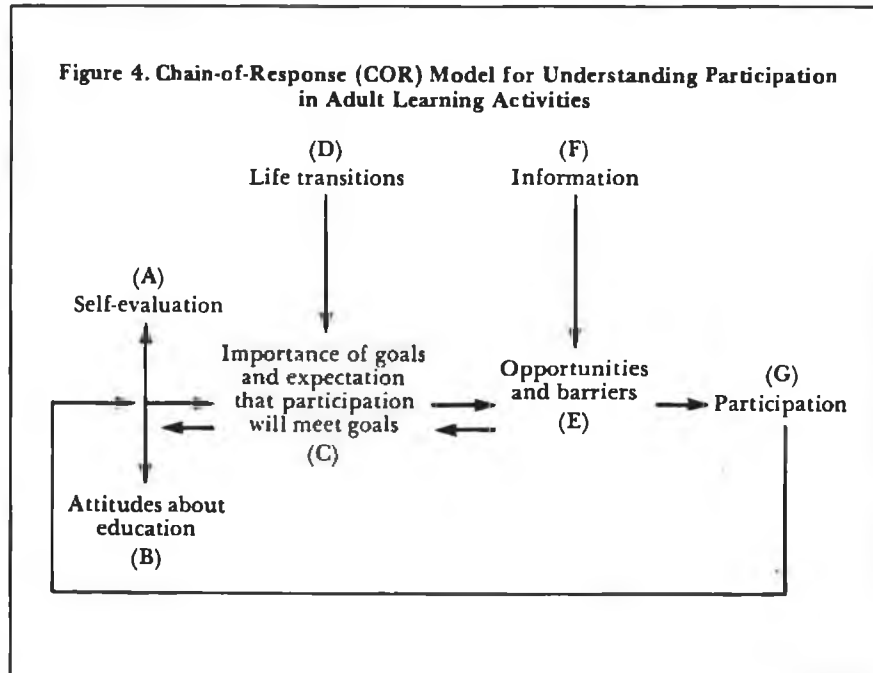
To test the hypothesis that the reason that certain employees used SPI was that they were more motivated to do so than employees who did not use SPI, findings from interviews were compared with variables B to E in the above Chain-of-Responses model. Variable A was outside of the scope of research undertaken.

It was noted in Chapter Three that employees' attitudes towards SPI (variable B) will tend to be influenced by their personal experiences of SPI, and by the opinion of fellow employees. However, research showed that the attitude of employees towards SPI was not particularly positive. For instance, the high percentage of managers and peers who were considered to be unfavourable towards SPI being used during working hours suggested

Source: Cross, 1982:124

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that they had a negative opinion of SPI. Also, most employees seemed to have had negative personal experiences when using SPI, in that they found the Open Learning Centre to be too open, exposed and prone to interruptions.

With regard to variable C, it was found that only a third of respondents considered that SPI courses would be effective in meeting their job related and personal development needs, which suggested that employees had a low expectation that using SPI would meet their goals. However, there was no distinction in how user and non-user respondents answered this question, non users considered SPI to be just as effective in meeting their needs as users did.

With regard to variable D, about a third of respondents said that they would use SPI, or would use to a greater extent, if it would help meet a specific need (as shown by Tables 6.20 and 6.21). This implied that the need to adapt to changing circumstances was a factor which would motivate employees to use SPI.

With regard to variable E, a number of barriers were experienced by respondents in their use of SPI. These included lack of interest and problems in using the Open Learning Centre, though the main barrier identified by respondents was lack of time (Table 6.8). Surprisingly, user and non-user respondents said that they would have equal difficulty in finding time to use SPI during working hours. However, a distinction was found between them, in that non-user respondents said that they would have more difficulty in using SPI after working hours than user respondents.

With regard to variable F, findings showed that most respondents had a low level of knowledge concerning SPI. However, non-user respondents had a significantly lower level of knowledge concerning what SPI courses were

available than users did. Significantly, this was the main distinguishing characteristic which was identified between users and non-users.

7.2.2 Evaluation of the Chain-Of-Responses Model

The Chain-Of-Responses model revealed that in general employees at Digital were not particularly motivated to use SPI. It also revealed that this lack of motivation was mainly due to their negative attitudes towards SPI, their lack of expectation that use of SPI would meet their goals, time and scheduling problems which they had experienced, and their lack of information concerning SPI.

However, the model revealed very few distinctions between users and non-users. As a result, the hypothesis that the reason why certain employees used SPI was that they were more motivated than non-users, was not sustained by findings. Besides, the Chain-Of-Responses model did not suggest a strategic approach which could be taken by Digital to increase the level of usage and effectiveness of SPI.

Therefore, the Diffusion of Innovations literature was examined to see if this could explain why some employees were using SPI, and others were not.

7.3 Diffusion of Innovations

The Diffusion of Innovations literature was examined because it purported to show how quickly, and to what extent an innovation (such as open learning) would be adopted by an organisation. A number of different models were identified by the literature (Williams, 1982:277-288). However, one particular model (the Rogers' Model of the Innovation-Decision Process)

was chosen since it clearly showed the process by which the adoption of an innovation[6] (such as SPI) would spread through a population of people (such as the employees at Digital) (Rogers, 1983:5-6).

In particular, there were two aspects of the Rogers' Model which proved to be most useful when analysing the findings. First, the variables which affected the rate of adoption of an innovation, which showed why SPI was being adopted slowly within Digital. Second, the process by which adoption of an innovation took place, which showed how SPI was being adopted and how the level of adoption of SPI could be increased.

7.4 Variables Affecting the Rate of Adoption

Because the results from the logbook had shown that there was a high rate of trial but a low rate of adoption of SPI, the variables which were shown by the Roger's model to affect the rate of adoption of innovations were examined, to see why SPI was being adopted slowly. The variables which were found to be affecting the rate of adoption of SPI were: the attributes of the innovation; the norms in the organisation; and the lack of a product champion's promotion efforts (Rogers, 1983:217-234). A description of each of these variables, and their relevance to the situation at Digital is shown below.

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[6] In the context of this model, adoption was defined as the process by which an individual would become committed to the continued use of an innovation (which was itself defined as any idea or product perceived by the potential user to be new).

7.4.1 Attributes of SPI

Within the Roger's model, there are five attributes of innovations which have been shown to influence their rate of adoption i.e. relative advantage, compatibility, complexity, trialability and observability (Rogers, 1983:217-232). It should be noted that it is the employees' perceptions of these attributes which predict the rate of adoption of the innovation, rather than the attributes themselves.

(i) *Relative advantage.* This is the degree to which an innovation is perceived to be better than existing alternatives, and has been found to be one of the best predictors of an innovation's rate of adoption. The greater the degree of relative advantage of the innovation, the more rapid will be its adoption.

In the case of SPI, the main 'existing alternative' with which it was compared was that of more formal types of training. Findings from initial interviews suggested that SPI had a low relative advantage when compared to more formal training, for two reasons. First, SPI was considered to require more self-discipline than formal training, i.e. it was more difficult to use. Second, SPI was considered to be less interesting and stimulating than formal training.

(ii) *Compatibility.* This is the degree to which an innovation is perceived to be consistent with the existing values, past experiences, and needs of potential adopters. The more compatible the innovation is, the faster it will be adopted.

There were a number of ways in which SPI was not consistent with the existing values, past experiences, and needs of employees at Digital. First, a number of them considered that it was inappropriate to use SPI courses

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during working hours. Second, a number of managers wanted a greater degree of control over their employees' use of SPI, which suggested that the idea of employees controlling their own learning / training was not compatible with the values or experiences of these managers. Third, SPI was not considered to be very effective in meeting the job related or personal development needs of employees.

(iii) *Complexity*. This is the degree to which an innovation is perceived to be difficult to understand and use. The greater the complexity of the innovation, the slower will be its adoption.

Within Digital, a number of employees considered that SPI media were difficult to use, and that they would have difficulty in finding and using relevant SPI courses.

(iv) *Trialability*. This is the degree to which an innovation may be experimented with on a limited basis. The more the innovation can be experimented with, the faster it will be adopted.

The high number of employees who used SPI on a trial basis showed that it had a high degree of trialability within the organisation.

(v) *Observability*. This is the degree to which the results of an innovation are visible to others, and can be conveyed to potential adopters. The greater the observability of the innovation, the quicker will be its adoption.

The low level of knowledge which employees had about SPI demonstrated that it had a low profile within the organisation. Also, the degree to which managers and peers were unfavourable towards SPI being used implied that they had not seen much, if any, positive results from SPI being used.

7.4.2 Norms in Digital

Another variable, which affects the rate of adoption of an innovation, is the norms of the organisation. Norms can be defined as established behaviour patterns which are set for the members of a social system (Rogers, 1983:27). If any feature of the innovation does not fit in with the norms and values of an employees' reference group, or with the culture of the organisation, then it is less likely that it will be used (Assael, 1987:376-380 & Rogers, 1983:234).

There were a variety of norms which were affecting the use of SPI in Digital. For example, some employees seemed to consider that they were responsible for their own development, as evidenced by their willingness to use SPI outside of company time. This 'norm' was one which facilitated the usage of SPI in the organisation. In contrast, other employees seemed to consider that the organisation was responsible for providing time for their development, as evidenced by their unwillingness to make time during working hours to use SPI, and their reluctance to use SPI outside of working hours. This 'norm' was one which hindered the use of SPI in the organisation.

Also, there were differences of opinion regarding whether or not SPI was a valuable form of training, which seemed to be influencing norms within Digital. Some managers / peers were supportive of SPI being used, since it showed that employees were taking responsibility for their own growth, or because the use of SPI would be beneficial to the department or work-group. This support seemed to be establishing norms within the organisation which were encouraging and motivating employees to use SPI. However, other managers / peers were not supportive of SPI being used, since they considered it to be a waste of time, or as not being beneficial to the department or work-group. This disapproval also seemed to be establishing

norms, which were discouraging and de-motivating employees from using SPI.

7.4.3 Extent of Product Champion's Promotion Efforts

Another variable affecting the rate of adoption of an innovation, is the extent to which a product champion promotes the innovation within the organisation (Rogers, 1983:234). The importance of a product champion is that he/she can overcome reference group resistance, persuade other employees to use an innovation, and create a climate favourable to the innovation (Rogers, 1983:315-316).

The fact that there was no SPI product champion in Digital implied that this was one reason for the slow adoption of SPI in the organisation, particularly since only 9% of employees at Digital had adopted SPI, and the activities of a product champion have been shown to be especially important when between 3% and 16% of the population have adopted an innovation (Rogers, 1983: 234).

7.4.4 Actions Needed to Improve the Rate of Adoption of SPI

The ways in which these variables were slowing the rate of adoption of SPI pointed towards a number of changes which were needed, i.e.:
- The relative advantage of SPI needed to be improved.
- The compatibility of SPI needed to be enhanced.
- The complexity of SPI needed to be reduced.
- The observability of SPI needed to be increased.
- A product champion needed to be appointed.

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7.5 Process of Adoption

As can be seen, the above variables identified why SPI was being adopted slowly. However, the next step was to determine how the rate of adoption of SPI could be increased. To do this, the process by which adoption of SPI was taking place in Digital was examined, using the Rogers' Model of the Innovation-Decision Process[7]. According to the Rogers' Model, the adoption of an innovation involves a five stage process, as is shown in Figure 7.2 (Rogers, 1983:164-189). These stages, and how they applied to the use of SPI, are described below.

Figure 7.2

The Rogers' Model of the
Innovation-Decision Process

(1)   Knowledge
↓
(2)   Persuasion
↓
(3)   Decision
↓
(4) Implementation
↓
(5) Confirmation

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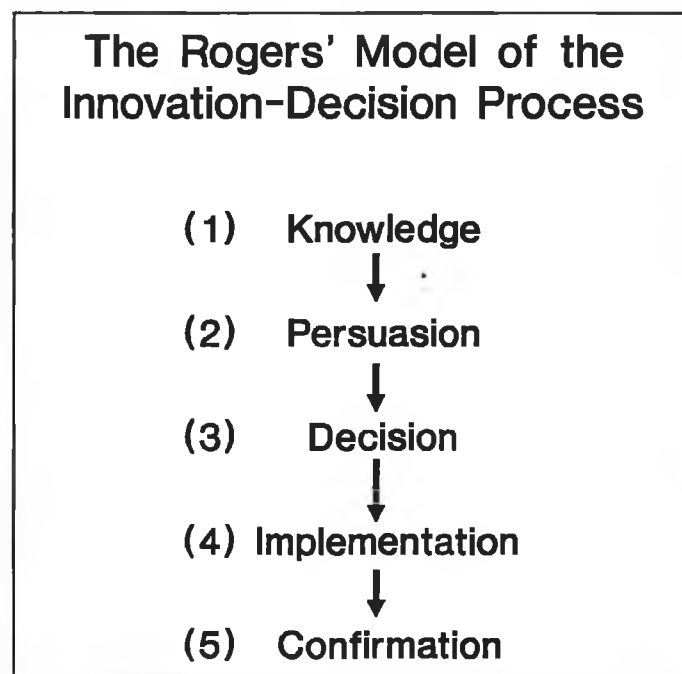
[7] It should be noted that this is a generalised model of adoption of an innovation, and that the steps taken, and their sequence can vary from employee to employee (Williams, 1982:286).

7.5.1 Stages of the Adoption Process

7.5.1.1 Knowledge

The first stage of the adoption process is Knowledge, where the employee becomes aware of the existence of the innovation and gains some understanding of what it is, how it functions, and what its potential benefits are. Within Digital, 57% of those interviewed had a low to nil level of knowledge concerning what SPI courses were available, which demonstrated that there was an overall low level of knowledge of SPI within the organisation.

However, according to the Roger's model, individuals are unlikely to move past the Knowledge stage if: (i) they do not define information about the innovation to be relevant to their situation; or (ii) if sufficient knowledge is not obtained to become adequately informed so that persuasion can take place. With regard to SPI, both of these situations seemed to have occurred.

First, it seemed that a number of those interviewed had decided that SPI was not really suitable for their situation, and that this decision was based on an accurate knowledge of what SPI courses were available. This would apply to those respondents who had a high level of knowledge about SPI courses, but had decided that it was ineffective in meeting their needs. This was true of approximately 15% of those interviewed.

Second, it seemed that a number of those interviewed had not been convinced (one way or the other) about SPI, but that this lack of convincing was due to incomplete information. This would apply to those respondents who had a low to nil level of knowledge of SPI, and considered that SPI courses were neither effective or ineffective in meeting their needs. This was true of about 12% of those interviewed.

7.5.1.2 Persuasion

The second stage is Persuasion, where the employee forms either a favourable, or unfavourable attitude towards the innovation. It is at this stage that a general perception of the innovation is developed i.e. its relative advantage, compatibility and complexity. At this stage, the employee actively seeks information about the innovation, to determine if using the innovation is a useful and appropriate activity. This information is usually sought from near-peers whose opinion (based on some experience of the innovation) is most convincing.

Within Digital, the reactions of managers / peers towards respondents using SPI showed that about a third of them were favourable, a quarter were unfavourable, and the balance were only favourable under certain circumstances. This suggested that about a quarter of those interviewed had formed unfavourable attitudes towards SPI and had not moved beyond the Persuasion stage (based on the premise that the opinion of managers and peers was particularly influential at this stage of the process).

7.5.1.3 Decision

The third stage is Decision, where the employee engages in activities that lead to a choice to either adopt or reject the innovation (where rejection is defined as a decision not to adopt the innovation). Most employees will not adopt an innovation without trying it out on a trial basis. This 'trial' of the innovation may lead to its adoption, or it may lead to its rejection.

The logbook of SPI usage showed that about 45% of employees had used SPI, i.e. they had reached the decision stage. However, 83% of these employees who used SPI only used it on a trial basis, i.e. they had not adopted SPI. Unfortunately, it was not clear to what extent employees who

only used SPI on a trial basis had rejected it, or had yet to decide to adopt it. However, the fact that all those who had used SPI said that they intended using it again (as shown by Table 6.7) suggested that most of these employees had not rejected SPI, but rather had yet to adopt it.

7.5.1.4 Implementation

The fourth stage is Implementation, where the employee actually begins to adopt the innovation, unless he/she is prevented from doing so by logistical problems.

In the case of Digital, employees did experience a number of problems when using SPI courses. However, these problems did not seem to have prevented them from adopting SPI, though it did hinder them from doing so.

For most employees, the Implementation stage is the last stage of the adoption process. However, for some employees a fifth stage of Confirmation may occur.

7.5.1.5 Confirmation

At the Confirmation stage, the employee seeks reinforcement for the innovation decision, and may reverse the previous decision (whether to adopt or reject the innovation) if exposed to messages about the innovation which conflict with that decision.

Employees at Digital did not seem (to any appreciable extent) to have moved on to the Confirmation stage, since none of those interviewed identified themselves as having reversed a previous decision to either adopt or reject SPI. In fact, over 90% of user respondents said that they intended using SPI again, which suggested that there were very few (if any) employees who had

reversed a previous decision to adopt SPI.

7.5.2 Process of Adoption - Conclusions

It was clear that employees at Digital were at different stages of the adoption process. Information gathered suggested that:

- About a quarter of employees had not moved beyond the Knowledge stage.
- About a quarter of employees had formed unfavourable attitudes towards SPI, and had not moved beyond the Persuasion stage.
- Just under half of employees had not moved beyond the Decision stage, i.e. they had used, but not adopted SPI.
- About a tenth of employees had reached the Implementation stage, and adopted SPI.

7.6 Strategic Actions

The analysis of findings showed that the reason that some employees had used SPI, while others had not, was that they were at different stages of the adoption process. It also suggested that certain strategic actions would need to be taken to move employees through the different stages of the adoption process, and thereby increase the level of adoption of SPI, i.e.:

(1) Increase the level of knowledge of SPI among employees, and thereby move employees from the Knowledge stage to the Persuasion stage of the adoption process.

(2) Cause employees to become more favourably disposed towards SPI, and thereby move them from the Persuasion to the Decision stage.

(3) Remove any logistical barriers experienced by employees, and thereby move them from the Decision to the Implementation stage of the process, thus facilitating their adoption of SPI.

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Essentially, the three strategic actions which needed to be taken by Digital were to:

- *Increase the level of knowledge / awareness of SPI.*
- *Persuade employees to use SPI.*
- *Facilitate employees in their use of SPI.*

7.7 Conclusions

The Action Planning stage of the research identified the strategic approach which Digital needed to take to increase the level of adoption of SPI in the organisation. The next stage required was to select a specific course of action to be taken by Digital, as shown in the next chapter.

CHAPTER EIGHT - ACTION TAKING

8.1 Introduction

The next part of the action research process was to select a course of action, i.e. Action Taking. This involved determining what short-term, medium-term and long-term actions needed to be taken by Digital. These actions then provided the basis for the specific recommendations which were submitted to Digital.

8.2 Strategic Actions

It was recommended to Digital was that they continue with SPI, even though they had experienced certain difficulties with it. The approach taken by Digital towards SPI up to that time seemed to have been fairly experimental. However, the experimental stage had come to an end, and a strategic commitment involving an investment of resources, money and time was now needed. This level of commitment was needed if: (i) Digital wished to see any substantial and qualitative improvement in the effectiveness of SPI, and in particular the level of usage of SPI in the organisation; and (ii) if Digital wished to take advantage of the future developments and potential of SPI.

Interestingly, the experimental approach taken by Digital towards SPI was similar to the approach taken by other organisations towards open learning, since few organisations have been able to move directly to a strategic approach to open learning, but have tended to do so as a 'mark 2' (or subsequent) model extending or improving on an earlier one (Temple, 1991:178).

The strategy which was recommended to Digital involved a number of short-term, medium-term and long-term actions (which had been identified as the various research findings were brought together and re-examined) i.e.:

(i) Short-term actions, needed to increase the level of usage of SPI in the organisation.

(ii) Medium-term actions, needed to integrate SPI into the training and development strategy of Digital in a more explicit fashion.

(iii) Long-term actions, needed so that Digital could position itself for long-term trends in SPI.

These actions are described briefly below.

8.2.1 Short-Term Actions

The short-term actions (identified in the last chapter) involved:

(i) Increasing the level of knowledge / awareness of SPI.

(ii) Persuading employees to use SPI.

(iii) Facilitating employees in their use of SPI.

The best means of implementing these short-term actions was provided by the recommendations from the findings section, as is explained below.

(i) To increase the level of knowledge / awareness of SPI in the organisation, a more effective and comprehensive internal marketing system, capable of informing employees about SPI and its relevance for them, needed to be established.

(ii) To persuade employees to use SPI, their attitudes towards SPI needed to be made more positive. One way of doing this was to base the usage of SPI

on a performance appraisal approach, which would put aside the main reservations which managers had expressed about staff using SPI during working hours. Another useful means of influencing the attitudes of employees was through the use of a product champion.

(iii) To facilitate employees in their use of SPI, a number of actions needed to be taken. First, to improve the layout and design of the Open Learning Centre. Second, to appoint a facilitator to the Open Learning Centre, who could meet employees' need for support. Third, to help employees schedule their usage of SPI.

Since employees were at different stages of the adoption process, these three actions needed to be dealt with concurrently. However, because the persuasion and facilitation of employees in their use of SPI was dependent on their knowledge of SPI, increasing the level of knowledge of SPI within Digital needed to be concentrated on initially.

8.2.2 Medium-Term Actions

A number of medium-term actions were also identified, which were needed to integrate SPI into the training and development strategy of Digital in a more explicit fashion. These actions involved purchasing new SPI courses which would contribute directly to the training needs of Digital, and would also be relevant and appropriate for employees' needs.

8.2.3 Long-Term Actions

Long-term actions were also identified, which were needed to enable Digital to position itself for forecasted trends in training and education, and so take

advantage of the potential long-term benefits of SPI.

8.2.4 Recommendations

These short-term, medium-term and long-term actions involved a number of separate recommendations, which are described below.

8.3 Short-Term Actions

8.3.1 Increase the Level of Knowledge / Awareness of SPI

The first of the recommended short-term actions was to meet employees' need for information, and so move them through the Knowledge stage of the adoption process. The specific recommendations needed to do this are shown below.

8.3.1.1 Recommendations

● *Promote the concept of SPI within Digital, through publicising:-*

▸ The purpose of the Open Learning Centre.

▸ The benefits of using SPI.

The potential benefits of SPI which could be pointed out to employees would include: opportunities for personal development; increased flexibility (so that they could use the SPI courses they want, when they want and where they want); reduction in training time; and reduction in training expenses.

▸ The steps to be taken when using SPI.

Only basic information would be needed here, enough to enable employees to begin to use SPI. More complex information needs could be met through information made available at the Open Learning Centre itself.

● *Provide the following information on each of the SPI courses:-*

- The length of the course.
- The nature of the course.
- For whom the course is relevant.
- The aims of the course.
- The 'level' which the course is aimed at (is it for beginners, experts... ?).
- The prerequisites needed for entry to the course.
- The type of support provided with the course.
- The options available after using a particular course, i.e. what other courses are available in the same area and is there a hierarchy of courses which can be followed ?

Since most employees use SPI to meet particular needs (and not just because it is there), publicity should be directed towards showing how SPI courses can meet the job-related and personal development needs of employees, rather than emphasising the courses themselves. Overall, the more comprehensive the publicity which is provided, the greater the likelihood that employees will believe that SPI can meet their needs.

● *Publicise SPI through the following channels:-*

- A text-based training catalogue.
- A computerised training catalogue.
- Noticeboards / Posters.

- Newsletters (containing employee views and experiences of using SPI).
- Presentations to departments (demonstrating the potential benefits of SPI).
- Open days within the Open Learning Centre (enabling employees to see what SPI is available).
- Induction (introducing SPI and the Open Learning Centre service to new employees).

Two indices should be provided with the text and computer catalogues, to help employees target the SPI courses which would be most relevant to their needs. One index would show which courses were relevant for particular jobs and departments, while the other would show which courses were available on particular topics or subjects.

Also, noticeboards and posters should be mainly used to inform employees of the purpose of SPI, how to use it, what its benefits are, and where to find the Open Learning Centre.

8.3.2 Persuade Employees to use SPI

The second of the recommended short-term actions was to influence employees, so that they would become more favourably disposed towards SPI, thus moving them through the Persuasion stage of the adoption process. The recommendations needed to do this are shown below.

8.3.2.1 Recommendations

● *A product champion should be appointed who can persuade managers and peers of the usefulness of SPI.*

Since the attitude of managers and peers towards SPI has been shown to be affecting the use of SPI in the organisation, it is important that someone who can persuade employees (particularly managers) to use SPI is made available, i.e. a product champion. This product champion would need to be someone who was convinced of the value of SPI and its future potential, and was able to influence managers. The most appropriate person for this would either be the Open Learning Centre facilitator, or possibly a member of the Training department.

● *Usage of SPI should be based on agreement between managers and their staff, with training needs being identified through a performance appraisal system.*

A good means of reassuring managers that SPI is being used properly by employees (i.e. contributing to the job and not interfering with work) would be to limit its usage to what was agreed between them and their staff. The best means of accomplishing this would be through using performance appraisal to identify training needs.

Based on this appraisal system, training and development plans would be drawn up between employees and managers. These plans would contain an agreement on what SPI courses (or type of courses) would be used by staff, and some sort of agreement on how this usage of SPI would be recognised and rewarded. This step would also go a long way towards convincing both managers and staff that usage of SPI was a legitimate and valuable training exercise.

8.3.3 Facilitate Employees in their use of SPI

The third of the recommended short-term actions was to ensure that employees were facilitated in their use of SPI, thus moving them through the Decision and Implementation stages of the adoption process. The recommendations needed to do this are shown below.

8.3.3.1 Recommendations

● *Appoint a facilitator to the Open Learning Centre who can help employees to:-*

- Identify what their learning needs are (which should be done in conjunction with the performance appraisal system).
- Choose appropriate SPI courses.
- Use SPI media (i.e. the facilitator should be able to deal with any software or hardware problems).
- Build upon what they have learnt so far (e.g. by showing what other SPI courses might be used).

It is important that the facilitator is present in the Open Learning Centre during working hours to provide assistance to employees, particularly during the initial stages (i.e. the first six months) of the implementation of these recommendations.

● *Improve the layout of the Open Learning Centre.*

SPI courses should be well presented, sorted and kept in good condition. Some sort of subject / title indexing system should be used for displaying SPI courses, and so make it as easy as possible for employees to find them.

Clear instructions on where to find SPI courses and how to use the media, should also be available at the Open Learning Centre.

- *Ensure that the Open Learning Centre[8] is not too exposed and that interruptions and distractions are minimised.*

To minimise interruptions and distractions in the Open Learning Centre, notices should be put up outside and inside the Open Learning Centre, asking employees to be quiet and not to interrupt those using the centre unless absolutely necessary.

- *Schedule time-slots for employees to use SPI.*

A number of those interviewed mentioned that lack of planning was one of the main reasons that they did not use SPI, or use it to a greater extent. This suggested that if employees were to schedule their usage of the Open Learning Centre ahead of time, that they would be more likely to use SPI. Nevertheless, in order to maximise the usage of the Open Learning Centre, it is also important that employees are allowed to use the Centre at short notice, unless the media and courses they are looking for are already booked.

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[8] It should be noted that during the course of this research the Open Learning Centre was moved to a larger location, where it was completely partitioned-off from the surrounding departments. However, even though this did lead to an improvement in the learning environment, it was still important that the learning environment of the Open Learning Centre be monitored, to ensure that it would enable employees to concentrate on the SPI courses they were using.

8.4 Medium-Term Actions

The need for medium-term actions, aimed at integrating SPI into the training and development strategy of Digital in a more explicit fashion, was also identified by the research. SPI courses were needed which would contribute directly to the training needs of the organisation, and be relevant and appropriate for employees' needs. The recommendations needed to accomplish this are shown below.

8.4.1 Recommendations

● *Purchase / adapt or develop new job-related and personal development SPI courses which can meet specific training needs.*

The best way of determining what SPI courses are needed would be by means of a systems approach, which would identify which organisational needs would be best met by SPI. Because of cost considerations, these SPI courses should be purchased from outside the organisation. However, if suitable SPI courses are not available externally, they should be developed within the organisation (where this is feasible).

● *SPI courses should only be purchased / developed if they are appropriate to the type of learning which is needed, and are a cost-effective means of meeting the training and development needs of employees.*

SPI courses which seek to impart knowledge, teach procedural skills, and lay the groundwork for practical skills are most in line with the teaching ability of SPI, and would therefore the most appropriate courses for purchasing. However, since SPI is less effective in teaching analytical skills, interpersonal skills and influencing employees' beliefs and attitudes, other

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training methods should be mainly used to meet these needs.

The decision concerning whether specific SPI courses should be made available to employees should be based on a cost / benefit analysis. However, the smaller the group of employees for which SPI is relevant, the less likely that it will be economical to purchase or develop it.

● *Purchase SPI courses which can satisfy the following criteria:*

- The type of learners the package is aimed at are similar to employees in Digital.
- The learning objectives of the package are reasonably close to what is needed by the organisation.
- The package can be used by Digital on a trial basis.
- The sort of support needed with the package is available within the organisation.
- The package can be modified and adapted to the specific needs of the organisation.

Because videos which are designed for group use (which is the case with most of the videos being used in the Open Learning Centre) are not particularly appropriate for individual use, videos which are specifically designed for individual usage should be purchased.

8.5 Long-Term Actions

The need for long-term actions which would enable Digital to position itself properly for forecasted trends in training and education (as shown in Chapter One), and to take advantage of the long-term benefits of SPI, was also identified by research. The recommendations needed to do this are shown

below.

8.5.1 Recommendations

● *In the long-term, Digital should:*

► Utilise telecommunications as a central media for the delivery of SPI, and so take advantage of the forecasted globalisation of education and training.

► Plan to make more training available to employees at their place of work, particularly by means of workstations.

► Source more SPI externally, as more integrated open learning services become available.

► Continue to emphasise the ownership of personal development by employees, particularly since this will help Digital to become more of a learning organisation.

► Use advanced learning technologies such as multi-media to deliver SPI, particularly since they are increasingly becoming cheaper, more powerful and more effective in meeting learning and training needs.

8.6 Implementing Recommendations / Evaluation

It should be noted that the second part of the Action Taking process (i.e. implementing the chosen course of action) was not undertaken, which also meant that Evaluation (i.e. studying the consequences of the course of action) was not dealt with. This situation occurred because Digital had not yet begun to implement the above recommendations at the time of the

conclusion of this research. This delay was itself due to changes in the organisation, which are explained below.

8.7 Changing Circumstances at Digital Equipment Corporation

It should be noted that Digital Equipment Corporation went through a time of upheaval and restructuring during the course of this research. In particular, the workforce at Digital (Galway) contracted from approximately 1,200 to 350 (between 1989 and 1993). There was also a major shift away from hardware to software related activities within the Galway operation. Because of these changes, the relevance of the recommendations made to Digital seemed to have lessened in two ways.

First, the restructuring meant that the structure of Digital and its goals (including its training and development goals) were modified, which suggested that the recommendations submitted to Digital were of less relevance than they would otherwise have been.

Also, the changing circumstances at Digital seemed to have biased the research findings in a number of ways. First, it seemed that employees' commitment to using SPI was somewhat less than it would have been during a more stable time (particularly because of their concern for the future). Second, it seemed that managers were more concerned with what their staff were doing during working hours, and the degree to which work was being accomplished, than would normally have been the case. Overall, the changing circumstances at Digital seemed to have exacerbated some of the problems which had been identified, i.e. the negative attitude of mangers and peers towards SPI, and the lack of willingness on the part of employees to use SPI during working hours. This suggested that these problems were given more weight and treated more seriously by the research than they

would otherwise have been.

Nevertheless, the changing circumstances at Digital did not seem to have reduced the relevance and effectiveness of the consultancy report given to Digital to any appreciable extent, particularly since the goals and objectives of the research had been agreed upon from the outset.

8.8 Conclusions

This section completed the research related aspects of the action research process. The last stage of the action research process involved specifying the learning which had taken place during the course of this research, and is described in the next chapter.

CHAPTER NINE - SPECIFYING LEARNING

9.1 Introduction

Although all the stages of the action research process were not completed, significant 'learning' which was of relevance to other organisations did take place within this action research project. This chapter shows the areas in which such learning took place, i.e.: open learning usage in industry; resistance to open learning; and a strategic approach for increasing the level of adoption of open learning.

9.2 Open Learning in Industry

This research project presented an interesting picture of the use of open learning in organisations. For instance, a large range of practice was found among the organisations which were examined, even among those organisations which were considered to exemplify best practice. Also, there were a variety of reasons why these organisations chose open learning, and a variety of ways in which they used it. This suggested that there was no 'one right way' of using open learning, but that the approach taken depended very much on the organisational context.

Nevertheless, the overall approach taken by organisations <u>was</u> heavily influenced by their understanding of what open learning was, and how it should be used. Some organisations treated open learning as merely a more flexible form of training, and utilised it in a similar manner to other forms of training in the organisation. However, other organisations introduced open learning as a way of giving employees a greater degree of freedom and responsibility for their learning, and/or facilitating a change from a training-

based culture to a learning-based culture.

Interestingly, research in Digital suggested that open learning which attempted to facilitate cultural change within the organisation would meet with a greater degree of resistance than open learning which was merely used as a more flexible form of training, as is explained in the next section.

9.3 Resistance to Open Learning

One of the more significant aspects of this research project was the 'cultural' resistance to SPI which was experienced within Digital. This resistance expressed itself in the following ways.

First, a significant percentage of managers wanted a greater degree of control over employees' usage of SPI than they already had (i.e. they wanted to know what SPI was being used, why it was being used, and that its usage was based on agreement). Basically, they did not seem to be very keen on the degree of autonomy being expressed by employees in their use of SPI.

Second, SPI was not seen as a legitimate or a useful form of training by a number of employees, who considered that using it during working hours would be inappropriate. Also, there seemed to be a number of employees who did not consider that they were responsible for their own development, but believed this to be the responsibility of the organisation.

These attitudes seemed to reflect a more traditional perspective on training, i.e. that 'proper' training should be planned and agreed ahead of time (with the manager taking the initiative), and that training should be undertaken for obvious and explicit purposes. Overall, there seemed to be tensions between this perspective, and the way in which SPI was being used within the

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organisation.

9.3.1 Dealing with Resistance to Open Learning

However, it would be expected that the tensions which were experienced by Digital would arise in most organisations, where open learning was introduced in the same way as SPI was in Digital. The question is, what should be done to reduce these tensions, and so facilitate the use of open learning in the organisation ? Should they be reduced by modifying the open learning system so that it will fit in with the training culture of the organisation ? Or should they be reduced by attempting to change the training culture of the organisation so as to make it more receptive to open learning ?

The recommendations given to Digital sought to do both. For example, an attempt was made to modify the SPI system by linking it to performance appraisal, thereby making it more acceptable to the traditional perspective. However, an attempt was also made to change the training culture in the organisation by means of internal marketing (particularly through using a product champion), so as to make it more receptive to open learning.

The approach which should be taken by other organisations who have experienced cultural resistance will depend on the organisational context. However, it would probably be best if they both attempted to adapt the open learning system to fit in with the training culture of the organisation, and to change the training culture to make it more receptive to open learning. Some ways of doing this are shown below.

9.4 A Strategic Approach for Increasing the Level of Adoption of Open Learning

It should be noted that for the following reasons the adoption of open learning is likely to be a slow process, particularly where it is introduced to an organisation in an unplanned and non strategic way. First, it is probable that open learning will be considered by employees to be less effective in meeting their needs and less easy to use than the other forms of training in the organisation. Second, it is likely that the use of open learning will not be compatible with the existing values and past experiences of employees. Third, the benefits of using open learning may not be very visible within the organisation. Because all of these factors will tend to slow down the adoption of open learning, it is important that organisations take a strategic approach to increasing the rate of adoption of open learning.

Although the context and circumstances at Digital were significantly different to what would be experienced by other organisations, there are a number of reasons why the strategic recommendations made to Digital would be applicable to them. First, other organisations have experienced the same problems with their open learning system as Digital has with SPI. Second, the adoption model used for this research has been widely used, and would therefore be applicable to most organisations. Third, most of the recommendations given to Digital were quite generic. However, the specific strategic actions which should be taken by organisations who wish to increase the level of adoption of open learning will depend on a number of organisational issues, as shown below.

• To what extent are relevant and appropriate courses available ?

Unless open learning courses which can meet organisational training needs are available, the organisation will need to purchase new open learning

courses. If a systems approach has not been used to identify which organisational training needs should be met by open learning, then this should be the first step taken. Next, the organisation will need to determine whether they should develop their own open learning courses, or buy-in open learning courses and modify them (which would be the least expensive of the two options). If the organisation decides to purchase courses from outside the organisation, they should only do so if they are satisfied that the courses under consideration are appropriate for the organisation (i.e. that they can satisfy certain criteria), and that they are cost-effective.

• What level of knowledge concerning open learning is in the organisation?

If the level of knowledge / awareness of open learning is low, then the organisation will need to improve its open learning internal marketing system to ensure that information is properly disseminated within the organisation. This will involve a number of steps. First, ensuring that the concept of open learning is properly promoted within the organisation, through publicising the purpose and benefits of open learning. Second, ensuring that comprehensive information is provided on each of the open learning courses, emphasising how the courses can meet employees' needs. Third, publicising open learning through a variety of channels (text, computer, noticeboard etc.), though concentrating on those which employees find most effective.

• What is the attitude of employees (particularly managers) towards open learning ?

If a significant number of employees are not 'persuaded' concerning the usefulness and appropriateness of open learning, they need to be persuaded to use open learning in the following ways. First, by linking the use of open learning to whatever career planning process is used by the organisation. Second, by appointing a product champion who is knowledgeable and

enthusiastic, and has the skills needed to promote open learning within the organisation.

- How easy is it for employees to use open learning ?

If employees have experienced logistical problems when using open learning, they will then need to be facilitated in their use of it. Where the organisation is using a learning centre, two actions will need to be undertaken in particular. First, to ensure that a facilitator is made available in the learning centre who can provide help and support for employees. Second, to ensure that the learning centre is accessible, has a good layout (enabling employees to find open learning courses), and is not noisy or subject to frequent interruptions.

As an organisation takes the necessary action on the above three issues, it will have the effect of moving employees through the different stages of the adoption process, thereby increasing the level of adoption of open learning within the organisation.

9.5 Conclusions

This section of the research completed the action research process. An evaluation of the effectiveness of action research as a research method, and other issues relating to the thesis as a whole, are described in the final chapter.

CHAPTER TEN - CONCLUSIONS

10.1 Introduction

This chapter evaluates the effectiveness of action research, compares Digital's experience of SPI with that of other organisations, examines the appropriateness of different models of learning, and gauges what the future is likely to hold for open learning.

10.2 Evaluation of Action Research

In evaluating action research, two issues were looked at. First, the effectiveness of action research, when compared with other research methods. Second, the extent to which action research proved to be a successful research method.

10.2.1 Effectiveness of Action Research v. Other Research Methods

There were two major ways in which the effectiveness of action research was found to differ from that of other research methods.

First, the effectiveness of this action research project was found to be limited by changing organisational conditions, which meant that the researcher was not able to evaluate the strategy which was recommended to Digital, and therefore found it somewhat difficult to identify 'learning' which was of relevance to other researchers. However, a more positivist research approach would probably have been far less affected by these changing circumstances, since the research hypothesis and research methods would have been chosen

from the outset of the project.

Nevertheless, research based on some sort of a positivist model would also have been far less likely to be relevant to the needs of Digital (as was shown in Chapter Two) than this action research project was (as is shown in the next section).

10.2.2 Success of Action Research as a Research Method

As was pointed out in Chapter Two, for this action research project to be successful it would need to be:
- Relevant to the needs of the organisation.
- Applicable to other organisations.
- Able to contribute to the field of open learning research.

The degree to which this research project was able to meet these requirements is discussed below.

10.2.2.1 Relevance of Research

It was shown in Chapter Two (section 2.3) that a research project (such as this one) would be irrelevant to an organisation unless it fulfilled five conditions. These conditions, and the extent to which the research satisfied them, are discussed below.

The first condition was that the research hypothesis would need to correspond to phenomena encountered by the organisation. The hypothesis utilised for this research (i.e. that there were five factors which were affecting the level of usage and effectiveness of SPI in the organisation)

obviously did correspond to phenomena encountered by the organisation, since the factors themselves were derived from internal research in Digital.

The second condition was that organisational goals would have to be captured by the research. Both the general goals (as shown in Chapter Four) and the specific goal of increasing the level of usage, and effectiveness of SPI (as shown by recommendations in Chapter Eight), did seem to be satisfied by research.

The third condition was that the research would need to enable management to control the variables which were necessary to achieve organisational goals. In the case of Digital, a strategic approach based on specific recommendations was given to management, which would enable them to increase the level of adoption and effectiveness of SPI within the organisation.

The fourth condition was that management were not already using a theory or strategy which was more sophisticated than that suggested by research. This was not found to be the case in Digital.

The fifth condition was that the above four conditions would remain fulfilled by the time the research was concluded and its results provided to the organisation. However, as was noted in Chapter Eight, both the structure and the general goals of Digital changed during the course of the research, which suggested that the second condition (i.e. that organisational goals would be met by research) may not have been fully met when the research was concluded. However, this did not seem to have undermined the overall relevancy of the research.

10.2.2.2 Applicability of Research to Other Organisations

For this action research project to be successful, it was also important that the results of the research were applicable to outside organisations. However, since Digital were using a particular form of open learning (i.e. that which was based on the use of a learning centre), and because they were undergoing major change, upheaval and restructuring during the time of the research, it seemed that the applicability of the research to other organisations might be limited.

Nevertheless, there were aspects of the research which suggested that what was found at Digital was applicable to other organisations. First, other organisations (even those not using learning centres) have experienced similar problems to Digital with their open learning system. Also, most of the recommendations given to Digital were quite general, and could easily be applied to other organisations who were experiencing similar problems (as was shown in Chapter Nine).

10.2.2.3 Contribution to Open Learning

It was also important that the research, if it was to be successful, would contribute to the field of open learning research. The ways in which it did this were described in Chapter Nine, and are presented throughout the remainder of this chapter.

10.3 Comparison Between Digital and Other Organisations

There were a number of ways in which Digital's use of SPI was similar to that of other organisations, but there were also a number of ways in which

it differed. These similarities and differences related mainly to the benefits which open learning was thought to provide, the extent to which organisations followed critical success factors, and the constraints which were experienced by employees which hindered their use of open learning.

10.3.1 Benefits Provided by Open Learning

There were a number of benefits which were considered to accrue to organisations as they used open learning (as shown in Chapter Four).

First, there were advantages which open learning was thought to be able to bring directly to the organisation through: improving employee access to training and learning; reducing the training-time needed by employees; reducing the cost of training; and improving the quality and effectiveness of training / learning.

However, the extent to which SPI actually benefitted Digital was not as great as these advantages suggested. Although SPI did provide greater access for employees to training and learning, most employees who used SPI actually used it very little. Although the cost of SPI courses was less than that of formal courses, SPI also seemed to be less effective than formal courses in meeting employees' needs. Overall, the degree to which SPI produced an improvement in the quality and effectiveness of training / learning within Digital was not as great as the literature and organisational practice had suggested.

Second, there were advantages which open learning was thought to be able to bring indirectly to the organisation, through giving employees a greater degree of control and ownership over their learning. However, although a number of employees in Digital did seem to have taken a greater degree of

control over their learning as a result of adopting SPI, most had not. Also, the degree to which employees were able to take control of their learning was hindered by a variety of organisational constraints (a point which is developed more fully under 'Constraints Hindering the Use of SPI').

Overall, it should be noted that very few organisations experienced all of the benefits which were believed to accrue to open learning. However, the benefits which SPI brought to Digital were far less than would have been expected given the experience of other organisations. One of the reasons for this seemed to be that Digital's approach to SPI was far less strategic than that of a number of other organisations, as is shown below.

10.3.2 Critical Success Factors

In Chapter Four, a number of critical success factors necessary for the successful implementation of open learning within organisations was identified. There were a number of ways in which Digital's stance on these factors differed from that of other organisations (who were successfully using open learning), which suggested that Digital's overall approach was less strategic and more experimental than theirs.

First, organisations who were successfully using open learning used some sort of systems approach (i.e. they introduced open learning as a result of identifying specific training needs which could be met by open learning). However, no such approach seemed to be used by Digital.

Second, organisations who utilised learning centres (i.e. ESB and Rover) ensured that the centres had a suitable location, layout and learning environment. However, Digital experienced a number of problems with the location, layout and learning environment of their learning centre, which

were mainly due to a lack of facilitation and support within the organisation.

Third, organisations who were successfully using open learning utilised comprehensive and effective publicity systems. However, this was not true of Digital, where the need for a more comprehensive publicity system was identified.

Fourth, organisations who were successful in their open learning used a variety of types of support, particularly that which was based on the use of a co-ordinator / facilitator. However, a minimal level of support was provided by Digital.

Fifth, organisations who were successfully using open learning utilised a number of methods of formalisation. The main methods they used were booking procedures (which ensured that users always had access to their chosen course), and individual training plans (agreed between managers and their staff). However, Digital did not use any such methods of formalisation.

Overall, the approach taken by Digital was less strategic than the approach taken by other organisations who were more successful in their use of open learning. However, as was noted in Chapter Eight, few organisations have been in a position to move directly to a strategic approach to open learning, but have only tended to do so when seeking to change or improve their open learning system. This suggested that Digital's experimental approach to SPI was not unusual, but that they were simply following a learning curve in their use of SPI, as other organisations had done with open learning.

However, a number of other constraints (apart from those which were due to a lack of strategy) were evident in Digital, as is shown below.

10.3.3 Constraints Hindering the Use of SPI

A number of constraints were experienced by employees in Digital, the effect of which was to decrease their commitment to using SPI.

First, employees experienced constraints due to the pressure of work, and due to time and scheduling problems. This confirmed the experience of other organisations, where commitment to using open learning was found to be lessened when employees were expected to learn while also handling the pressure of work demands and time constraints (as shown in section 4.7.2. of Chapter Four).

Second, employees were constrained in their use of SPI by the negative attitudes of a number of managers and peers towards SPI being used during working hours. It was noted in Chapter Six (6.9.5) that similar reactions have been experienced by other organisations.

Third, employees experienced constraints due to the increased emphasis which was placed on performance, rather than learning, during the time of transition within Digital. Interestingly, as shown in Chapter Four (section 4.7.2), this barrier was also identified in other organisations, where performance (rather than learning) tended to be rewarded.

Overall, the effect of these constraints within Digital was to lessen employee commitment to using SPI. However, Digital's experience was not unique, in that other organisations have also experienced 'a very uneven struggle between the commitment of the individual to improve through training, and the range of structural and organisational constraints emanating from the primacy of operations' (Fuller and Saunders, 1990:31). These constraints revealed that if organisations wished to be successful in their use of open learning, that they would need to do much more than merely making open

learning courses available for employees. They would also need to ensure that structural and organisational constraints were overcome through providing structures (such as career planning) and resources (such as good publicity and facilitation), which would empower employees to use of open learning.

10.4 What Model of Learning Should Organisations Use ?

It was noted in Chapter Nine that the two basic approaches taken by organisations towards open learning were influenced by their understanding of what open learning was, and how it should be used. However, it should be noted that these two approaches were implicitly based on pedagogical or andragogical models of learning (described in Chapter Three), as is explained below.

Those organisations who based their open learning system on a pedagogical model (which assumes that the learner is dependent on the teacher), tended to use open learning primarily as a more flexible form of training. Within these organisations, an open learning system was established in which employees were dependent on the training department and/or line managers for determining how and when their learning should take place. However, this approach was deficient in that it did not promote the ownership of personal development within the organisation, and (as was shown in Chapter One) was therefore unlikely to be effective in increasing the flexibility and adaptability of employees.

In contrast, those organisations who based their open learning system on an andragogical model (which assumes that the adult learner is a self-directing personality who should be allowed to take responsibility for deciding what they learn and how and when they learn), tended to use open learning

primarily as a way of giving employees a greater degree of freedom and responsibility for their learning. In such organisations, an open learning system was established in which employees tended to be independent of the training department and/or their line manager with regard to their learning. However, this approach was deficient, since it was not effective in ensuring that employee learning also contributed to the needs of the organisation.

As can be seen, neither a pedagogical or an andragogical approach to open learning has proved to be entirely satisfactory. Trends in education and training (as shown in Chapter One) have pointed towards the need for employees to take on a greater degree of ownership of their learning, however a pedagogical approach cannot adequately support this. Also, there is a need to ensure that employee learning is contributing to the goals of the organisation, however an andragogical approach cannot support this. This suggests that organisations who wish to successfully use open learning will need to use some sort of a contingency model, which utilises aspects of both the andragogical and pedagogical models. Such an approach will be needed to both ensure that employees are treated as self-directing learners, and that their learning is directed sufficiently to contribute to organisational needs.

10.5 The Future of Open Learning

Although the direction which open learning is likely to take in the future is not certain, there are certain things which can be confidently said about it.

First, the use of open learning in industry is a growing phenomena. It is also a phenomena whose rate of growth seems to be increasing, fuelled by the need for organisational flexibility, and facilitated by the increasing effectiveness of open learning media. In particular, the forecasted growth of integrated open learning services (as shown in Chapter One) suggests that

open learning will become less of a 'risk' for organisations who are considering using it. It will also mean that open learning will become more accessible to smaller organisations, who cannot at the moment afford the infrastructure necessary to successfully use it.

Second, organisations are becoming increasingly interested in using open learning as a way of facilitating the development of a learning organisation (as shown in Chapter Three). This suggests that organisations will, in general, move away from using open learning merely as a more flexible form of training (which is unlikely to support to creation of a learning organisation), towards utilising it in such as way as to facilitate a change from a training-based to a learning-based culture. This in turn suggests that more and more organisations will use some sort of a learning centre model of open learning to provide employees with a menu of open learning media and courses, though it is possible that telecommunications media may soon be used to deliver these courses to the employees place of work.

10.6 Concluding Comments

The use of open learning in industry is a growing phenomena. However, this action research project has highlighted the need for organisations to take a strategic approach towards their use of open learning, and to empower employees in their use of it. This research has also shown that it is important that organisations use an appropriate model of learning, which will promote employee ownership of learning, while also benefitting the organisation. Only in this way can organisations be confident that open learning will fulfil its expected potential.

APPENDICES

Appendix A - Telephone Survey

When contacting each organisation, the researcher began by explaining who he was, and the purpose of the telephone interview (i.e. to gauge the extent of open learning usage among organisations in Ireland). Then the initial person contacted (usually the secretary of the training department) was asked if they knew of anybody in the organisation who had explored or was using open learning (equivalent terms such self-paced learning, self-paced instruction and technology-based training were also mentioned). Once someone who was involved in open learning was contacted, the interview progressed along the following lines.

Initially, a basic definition was given by the researcher concerning what was meant by the term open learning, i.e. audio tapes, books, video, computer-based training or interactive video, which employees could use on their own.

The following questions were then asked:

(1) What training media are used to deliver open learning ?

(2) What types of packages are used on these media

(3) Was there a specific reason why open learning was introduced to the organisation ? (If answer was yes, what was the reason for open learning being introduced to the organisation ?)

(4) Has there been any evaluation of how effective the open learning programme has been ? (If there has, what was it and what did it reveal about the open learning ?)

Appendix B - Initial Organisations Contacted

A listing of the organisations / individuals who were interviewed is shown below. The name of the interviewee, and a basic description of the type of involvement by the interviewee or the organisation in open learning is also shown.

Organisation	Contact Person	Open Learning Description
Aer Lingus	Collette Cregan	Learning Centre
C.E.R.T.	Sean O'Malley	Distance Learning
Nitec	Richard Clarke	Consultant
Courseware (Irl.)	Niall Watts	CBT Supplier
D.C.U.	Jim Devine	Distance Learning
D.C.U.	John Hurley	Industrial Psychology
E.S.B.	Fergus Barry	Learning Centres
Ericssons System Expertise	Shay Ellis	Open Learning
FAS (Baggot St.)	Brendan Harper	Open and Distance Learning
FAS (Loughlinstown)	John McNamee	Distance Learning

Organisation	Contact Person	Open Learning Description
Irish Institute for Training and Development	Austin Vaughan	Not Applicable
I.P.A.	Mary Coolahan	Distance Learning

Appendix C - Training Managers Interview Schedule

Initially, a brief explanation was given by the researcher about the research which was being undertaken. Also, a brief definition was given of what was meant by the term open learning, i.e. audio tapes, books, video, computer-based training or interactive video, which employees could use on their own. Then the following questions were asked.

(1) Why did the organisation choose open learning ? (Has it met these objectives ?)

(2) What open learning technologies are used ?

(3) What open learning materials are used ?

(4) What benefits have been experienced from using open learning ?

(5) What problems have been experienced with open learning ?

(8) What level of support is provided with open learning to learners ?

(9) Which types of job/work has open learning been most successfully been applied to, and which has it not ?

In the course of the interview (where appropriate) interviewees were also questioned concerning the relevance of the critical success factors which had been identified from the literature review to their organisational situation. These critical success factors were:

- The use of a systems approach (did the use of open learning arise from an organisational strategy ?).

- Employee commitment to using open learning.

- The design of open learning courses.

- Suitable learning centres (if a learning centre was used by the organisation)

- Publicity

- Support

- Formalisation

Appendix D - Best Practice in Organisations

A few of the organisations looked at were judged to be particularly good examples of best open learning practice (i.e. ESB, Aer Lingus, Abbey National Plc. and Rover U.K.). A brief description of why they chose open learning, and their experience of using open learning is presented below.

ESB

Open learning was introduced to the ESB, in the form of learning centres, for two basic reasons. First, in response to employee grievances concerning lack of training and lack of access to training. Second, as part of a strategy to change the ESB from a training-based culture to a learning organisation culture.

At this point in time, the ESB is expanding the number of learning centres it has in Ireland. The first of these learning centres has been up and running since the end of 1992. Each of the centres contains the following training media - audio tape, text, video, computer and interactive video. A wide range of open learning courses in general development, information technology and technical training are contained in the centres. Because of the initial positive response by both employees and managers, a number of new learning centres are presently being built in Ireland.

The ESB is intending to base the future usage of open learning on training and development plans (jointly agreed between employees and managers). The goal of these training plans is to meet the competency needs of the organisation (the competencies themselves having been derived from the ESB's business plan). Open learning is be equivalent to formal training in the gaining of these competencies.

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Aer Lingus

Open learning was originally introduced to Aer Lingus to provide training opportunities for all staff, particularly shift-workers.

Open learning courses are made available to staff through the Staff Development and Training Centre. It is open to all staff except pilots and cabin crew. A wide range of open learning courses are available in the centre and staff are encouraged to use a wide range of training materials, including those outside the ambit of their immediate jobs. The training media used in the centre are text, audio tape, video, computer, and interactive video.

When Aer Lingus originally introduced open learning to the organisation, a lot of interest was generated - yet this soon died down. In response to this, the training department contacted senior managers in a number of departments, to discover what the training needs of their departments were. This was done with a view to 'marketing' open learning on its' ability to meet these training needs. It was hoped that this process would engender a greater degree of commitment from line-managers to their staff using open learning.

FAS

FAS has recently introduced a text-based open learning course leading to a certificate in training (given by UCG). The course content includes reading, assignments (directly related to work) and a major job-related project. Most of those presently using the course are FAS instructors, however some outside bodies (such as the ESB) are also making use of it).

This open learning course was introduced to train new instructors and to give certification to established instructors for competencies already gained. Open learning was chosen by FAS as they felt that it was the best means for combining both the academic and practical needs of a course for training instructors.

Of the 140 who began the course this year, only 4 have dropped out. The support given to the participants includes both mentoring and contact with course tutors by telephone. A number of voluntary study groups have also been set up. Where these study groups have been set up, there has been far less need for other types of support.

One of the key aspects of this FAS / UCG course is the amount of emphasis on the 'practical' aspects of the course. Work-related assignments and the job-related project count for 70% of the marks given. This ensures that what is learnt is applied to their jobs by participants. It has also been noted that the quality of training given by those doing the course has risen.

Abbey National Plc.

Abbey National introduced open learning to their organisation in response to a number of factors:
- A rapid growth in staff numbers.
- The need to be able to respond quickly to legislative changes and market demand.
- The necessity of handling adequately the training requirements for an expanding range of financial products.

Computer based training was chosen as the best means to meet the above needs, since it was able to provide adequate and immediate training for staff

in product information, legislation, and internal procedures. The modular structure of the CBT courses meant that they could be used both for training new staff, updating experienced staff, and widening the skills base of existing employees. CBT courses are used in conjunction with a self development plan, which is drawn up by employees in consultation with management.

Both the area training managers and branch managers encourage employees to use CBT. Completion of CBT modules is taken into account for staff promotion and is also used as a prerequisite for entry to a number of popular residential training programmes. Completion certificates are sent to all employees who finish their CBT courses.

Rover (UK)

Open learning was originally introduced to Rover to provide professional and technical training for employees, enhance employee self development and provide equal access to training for all employees.

Rover uses a number of learning centres, each of which contains a wide range of open learning media and open learning courses. The selection of courses which are available is influenced to a large degree by employee demand. The centres are publicised using training booklets, which provide a listing of all open learning courses, and are given to each employee. They are also publicised by means of weekly report-sheets, noticeboards and videoscreens. The publicity itself is oriented towards informing employees about open learning and motivating them to use open learning.

A survey undertaken at Rover showed that on average 230 people out of a workforce of 10,000 were using open learning courses per week (i.e. 2.3%

per week). However, Rover reckoned that their present level of open learning usage was growing at about 20 - 25% per annum.

Appendix E - Initial Interviews with Digital Employees

The following questions were asked of Digital employees.

(1) Have you ever used SPI (i.e. materials which are available in the learning centre) ?

(If answer is no, go to question 3)

(2)   (i) What media and materials did you use ?

(ii) What did you think of the content of the SPI and the way that the information was presented ?

(iii) How relevant to your job were the materials ?

(iv) How does SPI compare with other training courses which you have taken?

(skip to question 4)

(3) Why have you not used SPI ?

(4) What barriers / hindrances have you experienced in using SPI ?

(5) What could be done to make SPI more relevant and useful to you ?

Appendix F - Final Interview Schedule

The questions which were asked of interviewees are listed below. However, it should be noted that different interview schedules were used for various categories of interviewee. The questions asked of these interviewees were as follows:

Staff 'Non-Users' (Questions 0, 15-22, 26-34, 39-45).

Staff 'Users' (Questions, 1-22, 26-34, 39-45).

Manager 'Non-Users' (Lower Management) (0, 15-45)

Manager 'Users' (Lower Management) (All questions, except 0)

Manager 'Non-Users' (Higher Management) (0, 15-30, 35-45).

Manager 'Users' (Higher Management) (Questions 1-30 and 35-45).

Interview Schedule

Introduction

This purpose of this interview is to find ways of improving the Self-Paced Instruction service, through finding out what problems employees have experienced in using SPI. The questions I will be asking you centre around your perception of SPI and how useful you have found it to be.

For the purpose of this interview, SPI will be defined as all of the courses held in the Open Learning Centre, videos held in the library, computer-based training which is not mandatory (for example the Learning Styles inventory) plus any other ESSB Self-Paced Instruction courses you have used.

The first section of the questionnaire is about the SPI courses you have used

(1) How often (approximately) have you used Self-Paced Instruction courses in the last year ?

- 0	**1**
- 1-2	**2**
- 3-5	**3**
- 6+	**4**

If interviewee has used SPI, skip to Q2

(0) Why haven't you used SPI

_____

_____

_____

_____

Skip to Q15

(2) Where did you use these SPI courses ?

(a)_____

(b)_____

(c)_____

(d)_____

(If SPI only used in Open Learning Centre, skip to Q4)

(3) Why did you use SPI in *(other location)*, rather than the Open Learning Centre ?

( )_____

( )_____

( )_____

(Answers to questions 4-7 to be filled-out on appendix sheet 1)

(4) What are the names of the SPI courses you used ? If you can't remember what their names were, can you remember what were they about ?

(5) When did you use these courses, was it during working hours or after working hours ?

(6) Did you finish all of these courses ?

(7) What was your main purpose or reason for using each of these SPI courses?

Were there any other reasons ? (Draw out answer).

(8) How did you determine which SPI courses were relevant for the purposes you have mentioned, what steps did you take ?

( )_____

( )_____

( )_____

( )_____

( )_____

(9) In using SPI what media did you use ?

(a)_____

(b)_____

(c)_____

(d)_____

Hand appendix 2 page to interviewee.

This sheet of paper contains a number of lists of answers to particular questions. Each of these lists contains five elements, which are ordered in equal steps from the first point (eg. very difficult) to the last point (very easy).

Would you look at list number 1.

(10) How difficult was it to use each of the media you mentioned ? Was (*media mentioned*) very difficult to use (that is, you were unable to use it), difficult, neither difficult or easy, easy, or very easy (that is, you were able to use it with great ease) ?

	V	C	IV	AT	TXT
- Very difficult	—	—	—	—	—
- Difficult	—	—	—	—	—
- Neither difficult or easy	—	—	—	—	—
- Easy	—	—	—	—	—
- Very easy	—	—	—	—	—

(11) Why was (MEDIA) difficult to use?

(a)_____

_____

_____

(b)_____

_____

_____

(c)_____

_____

_____

(12) Is there any sort of help or support which would have made your usage
of SPI courses easier and more effective ? (Draw out answer)

_____

_____

_____

(13) Do you intend using SPI again ?

- Yes   **1**
- No   **2**
- Don't know   **3**

(15) If you needed to find information about something relating to your job,
where, or to whom would you go first to find this information ?

Where, or to whom, would you go next to find this information ?

_____

_____

_____

(16) If you needed to find information about something relating to your personal development, where, or to whom would you go first to find this information ?

Where, or to whom, would you go next to find this information ?

_____

_____

_____

The next section is about how well publicised SPI has been

(17) Can you tell me broadly what SPI courses are available at the ESSB ?

_____

_____

_____

(18) Where did you get this information on what SPI courses are available from?

_____

_____

_____

(19) What form of publicity would be the most effective for informing you about SPI?

_____

_____

_____

(20) What are your main job-related learning and training needs ?

(a)_____

(b)_____

(c)_____

(d)_____

(e)_____

Hand appendix 2 page to Interviewee.

Would you look at list number 2.

(21) Overall, how effectively can SPI presently meet these job-related learning needs? Is it very effective (able to meet most of your job-related learning needs), effective, neither effective or ineffective, ineffective, or very ineffective (unable to meet any of your job-related learning needs) ?

- Very effective	1	
- Effective	2	
- Neither effective or ineffective	3	
- Ineffective	4	
- Very ineffective	5	
- Don't know	6	*Skip to Q23*

(22) Why is SPI (*answer given to Q21*) in meeting your job-related learning needs ?

_____

_____

_____

(23) What are the main job-related learning and training needs of those reporting to you ?

(a)_____

(b)_____

(c)_____

(d)_____

(e)_____

Hand appendix 2 page to interviewee.

Would you look at list number 2.

(24) Overall, how effective do you think SPI is in its' ability to meet these job-related learning needs? Is it very effective (able to meet most job-related learning needs of those reporting to you), effective, neither effective or ineffective, ineffective, or very ineffective (unable to meet any job-related learning needs of those reporting to you) ?

- Very effective	**1**	
- Effective	**2**	
- Neither effective or ineffective	**3**	
- Ineffective	**4**	
- Very ineffective	**5**	
- Don't know	**6**	*Skip to Q26*

(25) Why is SPI (*answer give to Q24*) in meeting the job-related learning needs of those reporting to you ?

_____

_____

_____

(26) What are your main personal development learning needs ?

(a)_____

(b)_____

(c)_____

(d)_____

(e)_____

Hand Appendix sheet 2 to Interviewee.

Would you look at list number 3.

(27) Overall, how effectively can SPI presently meet these personal development needs? Is it very effective (able to meet most of your personal development needs), effective, neither effective or ineffective, ineffective, or very ineffective (unable to meet any of your personal development needs)?

- Very effective	1	
- Effective	2	
- Neither effective or ineffective	3	
- Ineffective	4	
- Very ineffective	5	
- Don't know	6	*Skip to Q29*

(28) Why is SPI *(answer given to Q27)* in meeting your personal development needs ?

_____

_____

_____

(29) For what types of learning or training do you think that SPI is the most effective?

_____

_____

_____

(30) For which employees do you think SPI is relevant ?

_____

_____

The next section is about the reaction of others if SPI is used during working hours

Hand appendix 2 page to Interviewee.

Would you look at list number 4.

(31) How do you think managers you report to, would respond if you used SPI during working hours ? Would their response be very unfavourable, unfavourable, neither unfavourable or favourable, favourable or very favourable?

- Very unfavourable	1
- Unfavourable	2
- Neither unfavourable or favourable	3
- Favourable	4
- Very favourable	5
- Don't know	6 *Skip to Q33*

(32) Why would their response be *(answer given to Q31)* ?

_____

_____

_____

Hand appendix 2 page to interviewee.

Would you look again at list number 4.

(33) How do you think other employees would respond if you used SPI during working hours? Would their response be very unfavourable, unfavourable, neither unfavourable or favourable, favourable or very favourable ?

- Very unfavourable	**1**	
- Unfavourable	**2**	
- Neither unfavourable or favourable	**3**	
- Favourable	**4**	
- Very favourable	**5**	
- Don't know	**6**	*Skip to Q35*

(34) Why would their response be *(answer given to Q33)* ?

_____

_____

_____

Hand appendix 2 page to interviewee.

Would you look at list number 4.

(35) What would you think if employees reporting to you used SPI during working hours? Would your response be very unfavourable, unfavourable, neither unfavourable or favourable, favourable or very favourable ?

- Very unfavourable	**1**	
- Unfavourable	**2**	
- Neither unfavourable or favourable	**3**	
- Favourable	**4**	
- Very favourable	**5**	
- Don't know	**6**	*Skip to Q37*

(36) Why would your response be *(answer give to Q35)* ?

_____

_____

_____

Hand Appendix sheet 2 to Interviewee.

Would you look at list number 5.

(37) Overall, how much improvement in job performance would you expect from employees reporting to you, as a result of their using SPI? Would you expect a very high improvement, a high improvement, medium improvement, low improvement or no improvement ?

- Very high improvement	**1**	
- High	**2**	
- Medium	**3**	
- Low	**4**	
- No improvement	**5**	
- Don't know	**6**	*Skip to Q39*

(38) Why would you expect (*answer given to Q37*) improvement as a result of employees using SPI?

_____

_____

_____

The next section is about any time or scheduling problems you may have experienced

(39) Have you experienced difficulty in setting aside enough time during your working hours to use SPI ?

      - Yes   **1**

      - No   **2**

      - Don't know   **3**

(40) Why have you experienced difficulty in setting aside enough time during working hours ?

_____

_____

_____

(41) What conditions or circumstances (if any) would cause you to use SPI courses to a greater extent, during working hours, than you already are ?

_____

_____

_____

(42) Have you experienced difficulty in getting enough time after working hours to use SPI ?

      - Yes   **1**

      - No   **2**

      - Don't know   **3**

(43) Why have you experienced difficulty in getting enough time after working hours?

_____

_____

_____

(44) What conditions or circumstances (if any) would cause you to use SPI courses to a greater extent, after working hours, than you already are ?

_____

_____

_____

Ranking of Factors

Hand appendix 3 page to interviewee.

(45) Here are a number of factors identified by employees at ESSB which have influenced their level of usage of SPI. Would you rank them in order of importance (from 1 to 10), inasmuch as they would cause you to use SPI courses to a greater extent. For example, if you think that comprehensive publicity is the most important factor write 1 beside it. For the next most important factor write 2 beside it, and so on up to 10. If you consider that two factors are of equal importance, write the same number beside them.

Appendix Sheet 1

Courses Used

Reasons for Use

(1)_____

(1)_____

      _____

_____

       dwh*   awh*   c**   nc**

_____

_____

(2)_____

(2)_____

      _____

_____

       dwh   awh   c   nc

_____

_____

(3)_____

(3)_____

      _____

_____

       dwh   awh   c   nc

_____

(4)_____

(4)_____

      _____

_____

       dwh   awh   c   nc

_____

_____

* dwh - during working hours; awh - after working hours.

** c - completed; nc - not completed.

Appendix Sheet 2

(1)   - Very difficult (Unable to use media)

       - Difficult

       - Neither difficult or easy

       - Easy

       - Very easy (Able to use media with great ease)

(2)   - Very effective (Able to meet most job-related learning needs)

       - Effective

       - Neither effective or ineffective

       - Ineffective

       - Very ineffective (Unable to meet any job-related learning needs)

(3)   - Very effective (Able to meet most personal development needs)

       - Effective

       - Neither effective or ineffective

       - Ineffective

       - Very ineffective (Unable to meet any personal development needs)

(4)   - Very unfavourable

       - Unfavourable

       - Neither unfavourable or favourable

       - Favourable

       - Very favourable

(5)   - Very high improvement

- High improvement

- Medium improvement

- Low improvement

- No improvement

__ SPI (Self-Paced Instruction) courses being understandable, interesting and enjoyable

__ SPI courses being relevant to your job-related needs

__ SPI courses being relevant to your personal development needs

__ Help being available to find SPI courses and to use media

__ Availability of tutoring / group discussion with SPI

__ The Open Learning Centre having a good location, layout and learning environment

__ Comprehensive publicity on what SPI courses are available, and their relevance to particular jobs

__ A favourable response from managers if SPI is used during working hours

__ A favourable response from other employees if SPI is used after working hours.

__ Having enough time to use SPI

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