AN EXPLORATION OF THE RELATIONSHIP BETWEEN TRAINING SYSTEM EFFECTIVENESS AND THE ENVIRONMENTAL VARIABLES

by

Dr Christopher T Selvarajah

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ABSTRACT

The purpose of this paper is to explore dimensions that relate to training systems effectiveness in a number of industry categories. The training system is taken as part of the reproducer boundary subsystem within the organisation (Miller **1978).**

In particular this paper seeks to link the concept of the subsystem, namely the training system effectiveness to its environmental characteristics. This is an exploratory study. To my knowledge there is no research work that tests the relationship between the environmental characteristics and and the effectiveness of training systems. This research is in the same **'vein'** as that of Lawrence and **Lorch** (1969), seeking answers to the elusive concept of organisational effectiveness and its relationship to the environment

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1 Introduction

In the review of literature on organisations, the ability of organisations to maintain and increase their effectiveness by adapting to environmental changes, is a common theme. The open systems framework allows for the development of monitoring and feedback mechanisms that guide organisations to adapt to changes in their environment. These interactive mechanisms enable organisations to maintain management practices which are current.

The purpose of this paper, is to link the concept of the subsystem, namely the training system effectiveness to its environmental characteristics. This emphasises the same philosophical issue as that of Lawrence and Lorsch's (1969) Organisation Environment, seeking answers to the elusive concept of organisational effectiveness and its relationship to the environment.

This paper is primarily concerned with exploring the relationships between overall training system effectiveness and characteristics of the organisation's environment. Environmental characteristics in this research are overall organisational effectiveness, organisational climate and the state of the immediate environment of the training department. In addition, the relationships of the perceptions of overall training system effectiveness and environments with the dimensions of organisational structure and size are examined.

The paper offers an approach to analysing organisation training system effectiveness in a dynamic way, and thus explaining its configuration in the organisation's environmental context. The structural relationships are explained in Figure 1. The variables in the model in this study are:

1. The overall perceptions of organisational effectiveness.
2. The overall perceptions of training system effectiveness.

effectiveness.

3. The perceived organisational climate.

4. The perceived state of the environment.

2 Research Methodology

Questionnaires formed the basis on which this paper was developed. The strategy adopted in the research method was to evaluate the training policies and the impact the training system had on the overall training system effectiveness. Two separate sets of questionnaires were administered to a target population. The first questionnaire was administered to managers across industries. The chosen population was past and present Deakin University Off Campus Masters in Business Administration (MBA) students. This population was found to be ideal for an exploratory study of managerial perceptions of the effectiveness of training systems on a cross industry basis. The total population was 447 and Questionnaire 1 was posted out to the total population. 286 respondents returned the questionnaire, a return rate of 64 per cent. Of the 286 returns, 135 were rejected on the ground that the organisations in which the respondents were employed did not have a training function. The rate of usable returns to total returns was 53 per cent. Eleven industrial categories, encompassing respondents' organisations were identified, and correlational studies of the criteria of training systems effectiveness based on these categories were computed and the results are shown in the Findings. The eleven categories identified were:

1. Government, other than defence and education
2. Defence
3. Mining
4. Manufacture
5. Services
6. Retail
7. Education
8. Professional
9. Insurance and finance
10. Computer
11. Other.

The eleventh type 'other' was included where respondents were not too sure of the industry category of their organisation. Some of the responses were reclassified into one of the other ten .industry types if the researcher was able to accurately ascertain their classification.

The other demographic variables which are of importance to the study are organisational size, formalisation of the training department, formalisation of the position of training manager and the importance of the training function in the organisation.

The organisational size is defined by the total number of employees in the organisation, formalisation is defined as the

degree to which jobs within the organisation are standardised (Robbins: 1987, p.498) and the industry type is the eleven categories of industries identified above. The three structural factors of size, formalisation and industry type are considered as having strong influences on the overall effectiveness of the training systems. The research considers in detail their impact on the training systems in the organisations. The thesis of this paper is not directly related to the study of the structural influences on the training system. These findings will be reported in another paper.

The second questionnaire was only developed after receiving some feedback from the first questionnaire and it became quite evident that there were other organisational and environmental factors that need to be studied. It is now quite obvious that examining organisational effectiveness without consideration of the influence of the environment would not be a study in open systems theory.

The second questionnaire with only four questions seeking responses to perceptions of the overall effects of organisational effectiveness, training systems effectiveness, organisational climate and the environmental complexity were posted out to the one hundred and fifty one respondents whose first questionnaire was found suitable for the research. One hundred and twenty two replied and all the questionnaires returned were found suitable for the research. The response rate was 80.1 per cent. The response to the second questionnaire was then added to the existing data file created by the first questionnaire and codes matched in both questionnaires.

2.1 The Philosophy of Measurement Objectives

The purpose for which any system is usually evaluated is to measure its output performance, and more precisely its economic performance in terms of efficiency and effectiveness. This task is an ambitious one even in circumstances where there is an output from the system that is quantifiable and of a clearly defined nature. Such an ideal, worthy though it may be in theoretical terms, becomes impractical when attempted in the context of the performance of almost any complex organisation system that deals in products other than material goods or measurable services.

This paper attempts to explore the dimensions that relate to the effectiveness of a system which trains people to make an effective contribution to the functioning of an organisation. The productive output of such a system is not measurable on a quantifiable level at present, unless one wishes to make the criteria of measurement absurdly simplistic.

Consequently, to explore the dimensions that relate to the effectiveness of training systems, as attempted in this thesis, must be preceded by a value shift away from rigorous

quantification as an ideal form of measurement and from attempting any singular measures of effectiveness.

2.3 Questionnaire Development

The measurement instrument of the questionnaires is based on the Likert five point scale, varying from number one, representing low or minimum amounts to number five representing high or maximum amounts. The questionnaire was adapted with modifications from the set of index points developed by Paddison, S.G. (1978). The questionnaire was further developed using input from the works of authors such as Mott (1972), Cameron (1978), Campbell (1977), and Mackay (1984).

3 Defining environment

A simplified definition of an organisation's environment is offered by Miles (1980, p.195).

> "Just take the universe, subtract from it the subset that represents the organisation, and the remainder is environment."

He however adds that, it is not that simple to define an organisation's environment. Basically the problem arises when the environment of the organisation is differentiated by the degree of influence the environmental factors have on the organisation. Robbins (1987, p.150) differentiates between an organisation's general and its specific environment. The factors of the general environment are stated as the conditions that may have an impact on the organisation, but their direct influence is not obvious. For example, the state of the immediate environment will undoubtedly have a far reaching impact on the prevailing organisational climate (see Figure 1). Its impact on the effectiveness of the organisation is, however, only indirectly relevant. The specific environment is considered directly relevant to the organisation (or subunit) in realising its goals. In the current research two variables, overall training system effectiveness and overall organisational effectiveness, are perceived to be related (Figure 1). In this instance the specific environment of the training system is the overall organisation. The performance of the training system contributes to the overall organisational effectiveness.

It should be noted that the perception of an environment is basically what an individual sees or perceives to be. Therefore the degree of differentiation of the environment depends on the individual's perception of what makes up the specific or general environment and his assessment of the environmental conditions (Starbuck: 1976, p.1080).

At a given time, two or more organisations can be operating in very different environmental conditions. The environmental conditions are subjected to what is commonly known as environmental uncertainty. Some of the organisations can be operating in a relatively dynamic environment, where

the conditions of the specific environment are rapidly changing. This is obviously the case in the computer industry (see Table **1)**. Other organisations face relatively static environments, where the conditions of the specific environment are changing very little. The Exploration industry and Defence are perceived to be operating in such an environment (Table **1)**. Both these industries have been affected by the subdued and non active environmental conditions. In static environments there is less uncertainty for decision makers.

Table **1**: Industry Type by Immediate State of the Environment

Here

1. Overall Training System Effectiveness.

r= .27 (P=.003)

2. Overall Organisational Effectiveness

r= .46 (P=.000)

3. The Organisational Climate

r = .22 (P=.015)

4. The State of the Environment

Fig. 1 Model explaining the relationship of the overall trainina svstem effectiveness and the environmental conditions

4 The environmental conditions

In this paper the environmental factors that have a definite relationship to training system effectiveness are examined. A study of this nature is appropriate when the environmental conditions have strong relationships with an organisation's operation, or when the organisation's operation is very reactive to environmental demands (Cameron: **1980).**

Each organisation has its own internal and external environment, which will influence how effective particular management policies and practices are in that particular environment.

According to this view, managers must be constantly aware of the constraining factors of each environment in which the organisation operates, and must refrain from any attempts to enforce standardisation in training policies and practices. Rather, management should consider the unique characteristics of their own organisations in developing appropriate policies and practices.

There is some convincing emerging evidence that management practice is, indeed culture based (Wallach: **1983).** Not all organisations have the same external environmental influences and the same organisational culture'. For example

the banks and the financial institutions will have a different internal and external environment from that of the motor vehicle industry. Likewise even within the same motor industry, General Motors has a different organisational culture from that of Nissan or Toyota.

In respect to the above proposition, training systems can be better understood from the viewpoint of systems theory, which suggests that systems such as training utilise four basic types of input or resource from the environment: human resources, financial resources, physical resources and information resources. Human resources include managerial talent, personnel and the like, the financial resource is the capital used to fund the organisation's operations, and physical resources includes the raw materials, training facilities and equipment. Information resources are the data processing and information producing capabilities and requirements of the training system.

Generally, the training manager's job involves combining and co ordinating the various training resources to achieve the organisation s goals, and to do so they perform, in the training area the basic management functions of planning, organising, leading and controlling, (Fayol, 1949, Koontz and O'Donnell, 1982).

Since training policies differ from organisation to organisatian, governed by internal. variables of the organisation and external influences of the environment, it is true to say that the measure of organisation effectiveness should not be based on a universal objective like profitability, productivity or other tangible measurement alone. It is then important to develop a set of criteria for performance measurement suitable to each organisation.

The question in the minds of many managers is how to organise organisational units to effectively handle contingencies that arise (Smith:1987). To satisfy this requirement, considerable research has been directed towards isolating factors upon which an organisation's structure may be contingent (Pugh et all: 1969). The problem still rests on how "best" to describe the environment.

Kimberly and Rottman (1987, p.595), in constructing a biographical approach to analysing organisations, suggest that the fruits of the last twenty years of research into organisational effectiveness (since Lawrence and Lorsch s (1969) organization and Environment) have culminated in two benefits to current research in the field:

i) There is a shift towards a more dynamic orientation for explaining organisational configurations and outcomes.

ii) There is the identification of strategic decision making as the link between organisation environment, structure, and effectiveness.

4.1 The problem of environmental dimensions

Dill **(1958)** in his study refers to the environmental characteristics leading to stability. The study refers to environmental stability based on either decentralised or centralised organisational arrangements. The celebrated works of Thompson **(1967)** and Burns and Stalker **(1961)** also refer to the concept of stability and uncertainty reflected by the degree of heterogeneity. Research suggests that environmental uncertainty tends to require more flexible and perhaps more decentralised organisational arrangements (Dill: **1958**; Lawrence and Lorsch: **1967**; Duncan: **1972).**

The dimensions of the environment are the subject of major disagreement among researchers. The two major areas of debate among researchers are:

1. Uncertainty

Duncan **(1972)** says that the effects of environmental uncertainty on the internal .characteristics of organisations can be due to the complexity of elements in the environment and their variability over time.

Pfeffer and Salancik **(1978)** suggest that uncertainty is the indirect result of the degree of resource concentration, the scarcity of these resources and the degree of interconnectedness of the resources in the organisation.

More recently, Pfeffer **(1981)** has commented that the degree of uncertainty in the organisation caused by environmental conditions, may. be overstated in explaining structure, and that the more fundamental dimensions of the environment itself, such as dynamism, should be utilised to measure the environmental conditions.

2. Objectivity

There is a disagreement on the subjective nature of perceived characteristics of the environment. This disagreement has centered on the use of objective and perceived organisational characteristics of the environment. Several researchers have suggested that the objective and the perceived environment are not the same. (Downey et al: **1975**; Pennings: **1975**; Tosi et al: **1973)**

To overcome the two shortcomings as stated above in the current research, the suggestion by Pfeffer **(1981)** is utilised, that is, to incorporate dynamism as a measure of the social relationship indicator. To accommodate the debate on the perceived and objective environmental characters, both objective and perceived environmental measures have been incorporated in this research. The examination of the objective environment and its relationship with the training system's effectiveness is a subject that will be developed in future papers. However the findings of the research was that the structural measures of size, type of industry and formalisation were seen to have some relationship with the

training system. In this part of the research, the perceived environment, that is, organisational effectiveness, organisational climate and the state of the environment, will be the major considerations.

5 Defining the environmental variables

The relationship between the four variables mentioned below were correlated using the Pearsons Product movement matrix. The strength of relationships were determined by the coefficient (r) and exact significance (p).

5.1 Overall training system effectiveness

This is a single criterion that measures the perception of the respondents overall view of the effectiveness of the training system. Training system here refers to either the training department, if the organisation has formalised this department, or the personnel department, if there is no training department but the .personnel department has the responsibility of coordinating the training function.

It is appropriate to consider the training system in an organisation as a strategic constituent, since training systems, like other systems in an organisation, contribute to the overall effectiveness of the organisation. Mahajan (1986) defines the strategic constituency approach to the evaluation of performance in an organisation as the extent to which all the organisation s constituents are minimally satisfied. strategic constituents in this sense refers to any group of individuals who have some stake in the organisation, such as the members of the training group in an organisation.

The measure of training effectiveness in an organisation is a function of many predisposing conditions (Peterson: 1977, p.153). The following are some of the conditions identified by Peterson:

training needs
qualified and competent training staff
performance evaluation mechanisms
effective management of the training function.

5.2 Overall orsanisational effectiveness

This construct is hard to define objectively and should be viewed in a similar way as the overall training system effectiveness. It is, then, treated as a single criterion that measures the perceptions of the respondents overall view of the effectiveness of their organisations.

The concept of organisational effectiveness is a persistent theme in the study of organisations (Jobson and Schneck: 1982, p.25). The study of effectiveness is a basic construct in all organisations and yet there is little evidence of relationships between organisational characteristics and effectiveness (Hannan and Freeman: 1977, p.106).

Researchers in the study of organisational effectiveness have adopted different perspectives regarding criteria of effectiveness. The following are some of the perspectives as noted by various researchers. Effectiveness:

- is an enigma (Cameron: 1981b)
- is an important but problem topic (Hrebniak: 1978)
- is an untidy construct (Campbell: 1977)
- is a topic with little convergence between measurement criteria (Molnar and Rogers: 1976)
- has conceptual relevance rather than empirical relevance and as such is not researchable (Hannan and Freeman: 1977)

Cameron (1978), on the other hand, claims to have identified one hundred and thirty different effectiveness criteria.

The central purpose of organisational evaluation is the evaluation of effectiveness (Mackay: 1984, p.3). Though the concept of effectiveness is central to evaluation, there is little agreement as to the criteria of measurement. Cameron (1978) examined 17 models of effectiveness and found little agreement among the models as to the criteria, and whether the models were absolute or relative in nature.

Perceptions of factors which constitute organisational effectiveness vary from one person to .another (Mackay: 1984, p.6). People in organisations and those studying organisations focus on different aspects of organisations. Some emphasise organisational output and measure effectiveness in relation to the achievement of goals (Campbell: 1977; Etzioni: 1964; Georgepoulus and Tannenbaum: 1957; Hall: 1972; Price: 1968; Scott: 1973; Steers: 1975).

Yuchtman and Seashore (1967) on the other hand focus on the inputs into the organisation, thereby measuring effectiveness as it relates to the ability of the organisation to interact with its environment to obtain scarce and valued resources.

Other researchers (Argyris: 1964; Beckhard: 1969; Bennis: 1966; Likert: 1967; Schein: 1969) are more concerned with the internal processes of an organisation, and measure effectiveness according to those patterns. A number of researchers have focussed on the ability of the organisation to meet the needs and constraints of critical individuals in the environment in order to measure effectiveness (Barnard: 1938; Connolly et al: 1980; Cyert and March: 1963; Kelley: 1978; Pickle and Friedlander: 1967).

Cameron (1978) notes that though there is a diversity of approaches to the measurement of effectiveness in organisations, all the researchers have started from the assumption that there is a universal set of criteria for organisational studies. She believes that this, in itself, is a shortcoming since research has either focussed on finding the universal set of criteria or has defined the criteria a

priori and then applied them to organisational studies. This failure to agree on a universal set of criteria has led to studies about the utility of the organisational effectiveness construct (Campbell: 1977; Hannan and Freeman: 1977; Hrebniak: 1978; Molnar and Rogers: 1976).

Mackay (1984, p.7) suggests that researchers first need to carefully define what they understand as the basis of organisational effectiveness. A multidimensional approach is indicated as the most appropriate in dealing with the divergence of criteria (Steers: 1975; Mackay: 1984). Cameron and Whetton (1983), though they support this view, are against the use of universal models of effectiveness.

Connolly et al (1980) suggest that merely prescribing effectiveness criteria is not appropriate, whether single or multidimensional criteria are utilised. The methodology suggested is to examine effectiveness from the perspective of the organisation's strategic constituents or sub units. They say that the criteria of effectiveness of the strategic constituent must be satisfied if the organisation is to be effective. Connolly et al. draw a relationship between subsystems effectiveness and overall organisational effectiveness.

The study of constituents' effectiveness has been of interest to other researchers in organisation theory in the past (Barnard: 1938; Cyert and March: 1963; Katz and Kahn: 1966; Keeley: 1978; Pickle and Friedlander: 1967). According to this approach, organisation members must establish a match between the criteria of effectiveness used in the organisation and the criteria valued by strategic constituents.

Goodman (1979) supports Cameron and Whetton's view that there is no universal model of effectiveness, and that models of effectiveness will be different in different types of organisations. He goes further to say that appropriate models may even differ among organisational subunits. This suggests that measures of success in an organisation should not be made universal under one effectiveness domain, but may be influenced by different structural characteristics within an organisation and should be measured as such. Penning (1975, p.403) agrees and adds that organisations and sub units may be effective according to some criteria and ineffective according to others. Perrow (1961) notes that, for example, in organisations where technology is routine, the organisations may be effective in making profits, though job satisfaction and employee morale may be low.

In attempting to develop a set of criteria for exploring the dimensions that relate to the effectiveness of training systems, it was found necessary to consider the variables that have been identified by theorists of organisational effectiveness studies. Organisational analysts have broken systems down into a multitude of characteristics using various classifications. The task of successfully resolving this plethora of characteristics is a difficult one especially in trying to isolate in any definitive way the dichotomy between

perceived elements of structure and process. Most researchers (Seiler: 1967; Katz and Kahn: 1966; Johnson, Kast and Rosenzweig: 1973; Melcher: 1973; Buckley: 1968; De Greene: 1970; French and Bell: 1973; Leavitt: 1965) have attempted to isolate within their research schemes major variables that influence organisational effectiveness. In this research it is not the aim of the study to pursue the impossible task of creating definitive and predictive variables, but rather to establish the factors that may influence overall training systems effectiveness. The current research also attempts to identify major predictive variables that are related to the perceptions of overall training system effectiveness and to perceived environmental conditions. In so doing, structural factors like industry type, size and formalisation of the training system have been isolated as objective structural variables that may have some relationship to perceptions of training systems effectiveness.

5.3 Oraanisational climate

Litwin and Stringer (1968) and Payne (1971) have defined organisational climate as a molar or central concept which reflects the general condition or atmosphere of a workplace. The organisational climate is assumed to influence the behaviour of individuals in an organisation by motivating and giving satisfaction to them.

A number of researchers have expanded on the notion of Likert's 'intervening variables' and have suggested that organisational climate falls into this category (Hellriegel and Slocum: 1974; Schneider and Hall; 1974). The function of organisation climate as an intervening variable is well defined by Lawler, Hall and Oldham (1974)

> ... climate is an intervening variable, caused by independent variables such as job activities and organizational structure, and in turn influencing a variety of output variables which are important to the organization as a system as well as to individual employees"(p. 140).

This idea is extended in Payne and Mansfield's (1967) work, who argue that organisational climate has the capacity to link individual perceptions with the organisational level of analysis. Dastmalchian (1986), concludes that "the perceptions of organisational climate can be affected by a set of 'causal' factors, and may influence or be influenced by, the 'end result variables" (p.610)

Though Payne and Pugh (1976) in their research have found inconclusive evidence of organisational climate being an intervening variable, studies show that organisational climate is influenced by a number of internal and external factors (Dastmalchian: 1986). As far as internal factors are concerned, size and structure of the organisation are said to have an influence. External factors like organisational environment are said to have a direct influence on organisational climate (Joyce and Slocum: 1979). For example,

Litwin and Stringer (1968) found that organisations with the 'achievement climate' were significantly more productive and innovative than organisations with 'power' and 'affiliation' climates, Likewise Schneider and Bartlett (1968) also considered climate to be primarily affected by the leadership style used in the organisation. Friedlander and Marguiles (1969) found that co worker behaviour and leadership influenced climate.

Azma and Mansfield (1981) found that organisational climate was a measure of organisational effectiveness, though their hypothesis that competition, through decentralisation, would relate to organisational effectiveness, was not confirmed. However, they found that centralisation was positively related to organisational climate. Their studies showed that in organisations operating in a highly competitive environment, organisational climate was influenced by task orientation and employee involvement.

There are numerous definitions of organisational climate, however most studies seem to agree that organisational climate can be considered as an employee's subjective perception of his organisation (Lawler et al: 1974). Schneider and Hall (1972) add to this view by stating that climate perceptions emerge as a result of the person's numerous interactions, activities, feelings and experiences in the organisation, and that perceived climate may be related to individual job satisfaction, involvement, and performance. In this view, climate is an intervening variable, caused by independent variables such as organisational performance and job activities.

In this research, organisational climate is defined as "the quality of working life". This definition includes the respondents perceptions of the level of employee morale and job satisfaction, as expressed by Lawler et al (1974). Table 2 shows that only twenty two of the sixty nine performance variables are significantly related to organisational climate.

Table 2: Correlation of Performance factors with organisational climate

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5.4 State of the immediate organisational environment

Donaldson (1987 p.2) measures the environment of the organisation by the rate of technological change which gives rise to a set of pressures to which the structure must in the long run adapt. This notion is expanded in this research to study the dynamism of the environment in relation to the organisation.

In a number of recent studies, researchers have set out to understand the organisations's environment and its bounds (Anderson and Paine: 1975); McCaskey: 1979; Stein: 1981). Their research focused on the perceptions of managers of the attributes of the organisational environment. Some managers perceive the same environment as more uncertain-than do

others, and thus perceptions of environmental uncertainty are more than simply an environmental attribute (Downey, and Slocum: 1975, p.614).

Thompson and Tuden (1959) have argued that highly uncertain and turbulent environments lead to the establishment of a high degree of computational decision making processes. For example, deregulation and other policy changes to the finance industry in recent times, has created a competitive environment, and financial 'institutions have adapted to changes by installing computer intelligence to service customer needs.

This in turn leads to a system that relies on a high degree of formalised structure. White et al (1980) reject this notion and suggest that strategic decision making is facilitated by less formalised organisations. The differences in the views can be accommocated when it is seen that Thompson and Tuden (1959) focused on the effect of uncertainty on the organisation, while White et al (1980) were concerned with the effect that environmental change has on organisations.

The celebrated works of Burns and Stalker (1961), Emery and Trist (1965) and Lawrence and Lorsch (1965) are landmark contributions to the understanding and influence of the environment on the structure of the organisation. They theorised that environment determines structure. In essence they proposed that the environmental demands generate conditions in the organisation that are satisfied by the appropriate organisational structure. Their explanation of the interactive nature of the environment and the organisational structure was based on a systems perspective. The flow of inputs into the organisation and the outflow of outputs was considered important to the survival of the organisation. Survival of the organisation in this context was based on the organisation's ability to cope with the uncertainties of the environment. These environmental conditions determined the input/output equilibrium necessary for the organisation to survive in a competitive open system.

Burns and Stalker (1961) found that the type of structure that existed in rapidly changing and dynamic environment was significantly different from that in organisations with stable environments. They called the structure found in a dynamic environment "organic" and labelled the structure as "mechanistic" in stable environments. Mechanistic structures were characterised by high complexity, formalisation and centralisation. The tasks performed were routine and relied on precise and programmed behaviour. The rate of change was slow. The organic structures were relatively flexible and adaptive. The structure promoted horizontal communication rather than vertical communication based on a superior/subordinate relationship. The method of communication was based on expertise and knowledge rather than the authority of the position. Exchange of information, rather than directives was encouraged, with responsibilities loosely defined.

Burns and Stalker were of the view that neither of the structures were to be considered superior to the other. The organisation that adapts to the environment with the most appropriate structure is the most effective. In other words, organisations operating in a dynamic and fast changing environment should adapt organic structures while organisations in a stable or static environment should adapt mechanistic structures. They also cautioned against over generalisation, as the ideal forms define two ends of a continuum, and, no organisation is purely mechanistic or purely organic. Emery and Trist (1965) expanded on Burns and Stalker's model and identified four kinds of environments (see Table 3). The first two environments respond to the organic structures. Each environment is progressively more complex than the previous one.

Table 3 Emery and Trist's four kinds of environments
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5.4.1 Technoloav and its influence on the oraanisation

Emery and Trist's four environment model is also compatible with the research findings on technology (Thompson: 1967, Thomas et al: 1974). Research shows that the less routine the technology, the greater the uncertainty; the less effective the mechanistic qualities and the more important it is to use flexible forms of organisation. For example, the computer industry is perceived to operate in a dynamic environment (Table 1). Uncertainty is high and there is

Table 4 Influence of new technology on industry type

Here
potential for major and rapid changes. In this type of environment, a flexible organic structure is most suitable. The respondents from the computer industry have also stated that their industry has a very high need to develop training programs associated with new technology (Table 4). This indicates that the survival of organisations in the computer industry depends very much on their adaptability to .the fast changing technology. Respondents from the other industries like services, retailing, manufacturing and the professions do not reflect the same enthusiasm for the development of training programs associated with new technology.

5.4.2 Formalisation of the trainina function and its influence on the oraanisation

Most of the literature on environment (Burns and Stalker, Emery and Trist, and Lawrence and Lorsch) suggests that formalisation is a characteristic of mechanistic organisations. This is probably true of the subunits at the boundary of the organisation, that interact with the environment frequently (Robbins: 1987, p.163). This could probably explain the observations in this research. Formalisation of the training department and the position of the training manager corresponds more to organic structures (Table 5). Table 5 shows the computer and the

insurance/finance industry respondents as perceiving a high proportion of formalised training departments (80% and 83.3% respectively) and positions of training manager (100% and 91.7% respectively) in their industries. Both these industries are operating in a dynamic environment (Table 1). On the other hand the 'manufacturing industry respondents have indicated that their organisations do not have highly formalised training departments (26.7%) or formalised positions of training manager (46.7%) .

Table 5 Formalisation and the industry type

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5.4.3 Managerial perceptions of the state of the environment

Lawrence and Lorsch (1965) studied the internal environment of the organisation and identified two separate dimensions: differentiation and integration. They suggested that managers at different levels and departments can be expected to hold different views and attitudes and behave differently in terms of their goal perspectives, expected time frames and their relationships with employees. They argued that since the managers do not see things the same way all the time, it is difficult to agree on integrated plans of action. This causes complexity and more rapid changes. The degree of differentiation than becomes a measure of complexity. The current research reflected this difference in perceptions among three managerial levels. The strategic planners (general managers) perceive a more dynamic environment than the officers in the survey (Table 6). The manager category is somewhere in between the general manager and the officer level in terms of preceptions of the state of the immediate environment.

Table 6 Managerial perceptions of the state of the immediate environment

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The integration aspect of the interdependent units or departments of the organisation was the second dimension of the internal environment. Lawrence and Lorsch's study concentrated on the requirements of achieving unity of effort in the organisation. The devicesthat organisations normally use to achieve this unity include rules, procedures and policies, formal plans, common databases for decision making, channels of coordination and other integrative mechansims.

In the current research, respondents from the computer, defence and exploration industries indicated that their industryies achieved unity of training effort, by having written top management policies defining company wide training missions and objectives (Table 7) and by having a written training department policy defining specific training missions and objectives (Table 7) and (Table 8). In both instances, the

respondents from the manufacturing industry and the professions indicated a low preference for unity of training effort. The lack of chi square significance ($p>0.6$) restricts interpretation of the data about the status of the other industries.

Lawrence and Lorsch postulated that the more dynamic, complex, and diverse the external environment, facing an organisation, the greater the degree of differentiation among its subunits. They also suggested that there is a need for an elaborate internal integrative mechanism to maintain harmony among the subunits. The current study does not seem to support this proposition. Table 9 and Table 10 suggests that the respondents perceive that there is an overall lack of integration mechanisms in most of the industries surveyed. This finding can perhaps be attributed to differences in actual and perceived degrees of uncertainty. It has been suggested that replication of Lawrence and Lorsch's work using objective measures have often failed, suggesting that their results may be a function of their particular measure (Tosi et al: 1973; Downey and Slocum: 1975; Aldag and Storey: 1975).

Table 7 Unity of management training effort

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Table 8 Unity of departmental training effort

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Table 9 Mechanism for reviewing and facilitating integration

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Table 10 Mechanisms for monitoring the development of potential conflict

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The criticisms of Lawrence and Lorsch's work are valid from a research viewpoint. However from the practical aspect of the respondents, who are practising managers in this research, it is their perceptions of the environmental conditions that count. The perceptions of these managers represent an important contribution to the understanding of the relationship of the immediate environments with their respective organisational structures.

6 Environmental relationships with structure

In the current research, the state of the immediate environment of the organisation is measured by the degree of dynamism in the environment, as perceived by the respondents in the survey. The 5 point Likert scale measures this response. 1 is considered stable and 5 is dynamic. The mean average of the sample of this measure was 3.78, indicating a fairly dynamic environment (see Table 11).

Table 11 Mean and Standard deviation of the overall training system effectiveness and the environmental variables

Here

Table 12 shows the Pearson product movement correlation matrix of the four variable, overall perception of organisational effectiveness (Q 3.1), overall perception of training system effectiveness (Q 3.2) perceived organisation climate (Q 3.3) and the perceived state of the immediate organisational environment (Q 3.4).

Table 12 Pearson's Product movement Correlation Matrix of the overall training system effectiveness and the environmental variables.

Here

6.1 The relationship between training system effectiveness and orsanisational effectiveness

When overall training systems effectiveness.is correlated with the other three variables under examination, only training systems effectiveness is highly correlated with overall organisational effectiveness (r= .27 P= .000). The perceived relationships of the overall training system effectiveness to organisational climate (r= .13) and to the state of the immediate organisation environment (r= .05) are not significant (P>.05).

These perceived relationships suggest that the overall training system effectiveness measure (Q3.2) is significantly related to overall organisation effectiveness (Q3.1) and may be a contributor to the effectiveness of the organisation. The correlation also suggests that there is very little direct relationship between either the overall training system effectiveness and organisation climate or the state of the immediate environment. The implication of this finding is that the perceived effectiveness of the training system as a subunit in an organisation is directly related to the perceived overall effectiveness of the organisation. No significant relationships were found either between training systems effectiveness and organisational climate or the state of the immediate environment.

Table 13 shows the relations of the training system effectiveness criteria and the overall organisational effectiveness.

Table 13: Relationship of the training system effectiveness criteria to the overall organisational effectiveness (Q3.1) at confidence level p > .01.

Here

6.2 The relationship between overall organisational effectiveness and orsanisational climate

Overall organisational effectiveness has also a direct and highly significant relationship to organisational climate ($r = .46$, $p = .000$). There is no significant relationship between organisational effectiveness and the state of the immediate environment ($r = .22$, $p = .16$).

This finding suggests that perceived overall organisation effectiveness is related significantly to two of the variables, namely, the overall perception of effectiveness of the training system and the organisational climate. The implication is that the overall organisational effectiveness measure is an intervening variable between the training systems effectiveness and the 'quality of working life'. The quality of working life variable, which measures employee morale and job satisfaction, has a direct and positive relationship with the organisational effectiveness variable.

The significance of this finding is that improvement of the training system may not be directly related to improved employee morale and satisfaction, but may have a direct relationship with organisational effectiveness. Organisational effectiveness may then have an intervening relationship with employee morale and satisfaction. Therefore improvement in the training system may be related to improved overall organisational effectiveness, which may then be significantly related to the quality of working life. Kasperson **(1985)** in a study exploring the relationship between performance, decision making and structure, found that there was a positive correlation between job satisfaction and organisational effectiveness. This evidence is not conclusive. studies show that job satisfaction is a correlate of organisational climate and not organisational performance (Friedlander and Margulies: **1969**; Litwin and Stringler: **1968**; Lawler et.al: **1974**).

6.3 The relationship between organisational climate and the state of the immediate environment

organisational climate is, in this case, the intervening variable between overall organisational effectiveness and the state of the immediate environment. Organisational climate is significantly related to organisational effectiveness as stated above and is also significantly related to the state of the immediate organisational environment ($r = .22$, $p = .015$).

The importance of this finding is that the state of the immediate environment, measured in terms of organisational dynamism, can have a bearing on employee morale and job satisfaction. The condition of the immediate organisational environment need not have a direct bearing on the overall effectiveness of the organisation or the training system. The condition of the immediate organisational environment can influence the quality of working life, either by improving the perceptions of the employees working in a dynamic and challenging environment, or making them more negative when the immediate environment is static.

7 Summary

The purpose of this paper was to establish the contingency nature of organisations, which to an extent, are influenced by their environment. The behaviour of subsystems in an organisation is, to a large extent, thus contingent on the behaviour of the many parts that make up the system. This suggests that an effectiveness study of a subsystem should not ignore the impact of other subsystems of the organisation.

The major concerns of this paper were the perceived environmental variables that may have a relationship with the training systems effectiveness. Specifically three such variables were related to the perceived overall training system effectiveness criterion. They were:

the overall organisational effectiveness,
the organisational climate, and
the state of the immediate environment of the organisation.

The correlational results show that the relationship of the three environmental variables to the overall training system effectiveness criterion is as explained in Figure 1. The overall training system effectiveness criterion is not directly related to organisational climate or to the state of the immediate environment. Overall training system effectiveness is related to overall organisational effectiveness ($r = .27$, $p = .003$). Overall organisational effectiveness is in turn related to organisational climate ($r = .46$, $p = .000$). Finally organisational climate is related to the state of the immediate environment ($r = .22$, $p = .015$).

This web of relationships suggests that training systems effectiveness is related to the overall organisational effectiveness. The training system's interface with the external environment is through the organisational structure, since the training system effectiveness is not directly related to the organisational climate or the state of the immediate environment. The organisational structure, then, is said to constitute the interface link between the training system and the external environment.

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Table 1: Industry Type by Immediate State of the Environment

Q3.4->Count / Row Pct	Static Conditions 1	2	3	4	Dynamic Conditions 5	Row Total
FQ1.7						
1 Government		4 11.1	6 16.7	12 33.3	14 38.9	36 29.5
2 Defence		4 33.3	2 16.7	3 25.0	3 25.0	12 9.8
3 Exploration		4 40.0	2 20.0	1 10.0	3 30.0	10 8.2
4 Manufacturing		5 20.8	6 25.0	9 37.5	4 16.7	24 19.7
5 Service			1 33.3	1 33.3	1 33.3	3 2.5
6 Retail		2 28.6	1 14.3	4 57.1		7 5.7
7 Tertiary education	1 14.3		1 14.3	2 28.6	3 42.9	7 5.7
8 Professional				4 100.0		4 3.3
9 Insurance & Finance		1 8.3	1 8.3	3 25.0	7 58.3	12 9.8
10 Computers				3 75.0	1 25.0	4 3.3
11 Other			2 66.7	1 33.3		3 2.5
Column total	1 0.8	20 16.4	22 18.0	43 35.2	36 29.5	122 100.0

Chi-square	D.F.	Significance
55.26829	40	0.547

Table 2: Correlation of performance factors with organisational climate (Q3.3) at confidence level $p < 0.10$

Performance indices	Pearson's r	p*
Q2.3.23 Integration of company planning **units**	**.48**	.000
Q2.8.2 Proactive **planning**	.45	.001
Q2.12.5 Problem-solving orientation of training manager	.45	.001
Q2.7.1 Company-wide training need analysis	**.43**	.001
Q2.4.1 Communication between **training** staff and line management	**.40**	.003
Q2.9.2 Channels of coordination	.40	.003
Q2.11.3 Productivity of training staff	.37	.006
Q2.17.3 Conceptual flexibility of training staff	.36	.009
Q2.5.1 Adequate finance	.35	.010
Q2.10.1 **Mechanisms** for monitoring potential **conflicts**	.35	.011
Q2.21.3 Training importance **in** the organisation	.35	.011
Q2.10.2 Conflict resolution **by** means of confrontation of issues and consultation	**.35**	.011
Q2.1.3 **Line** management involvement in development of training materials	**.34**	.012
Q2.18.2 Communication between geographically separate training staff members	.32	.020
Q2.17.2 Problem-solving orientation of training staff	.31	.026

Q2.9.1 Integration of training department with other areas	**.30**	.028
Q2.12.1 Worker participation is encouraged by the training manager	.30	.031
Q2.3.2 Long-range planning	.29	.038
Q2.8.1 Reactive planning	.28	.039
Q2.1.2 Written training department policy	.28	.039
Q2.6.3 Frequent meetings among company to decide training needs	.28	.042
Q2.4.2 Communication between training department and personnel department	.27	.050
Q2.3.1 Training resource allocation and utilisation	.27	.054
Q2.14.1 Formal system for monitoring performance	.26	.057
Q2.16.2 Training staff have appropriate experience	.25	.068
Q2.11.1 Training staff performance	.25	.069
Q2.7.2 **Regular** survey for specialised training needs	**.24**	.078
Q2.5.2 Appropriate staff to conduct training	.24	.084
Q2.18.3 Access to **group** information sources	.24	.089
Q2.11.2 Quality of training programs	.23	.099

*Exact Pearson's two-tail significance

Table 3 Emery and Trist's four kinds of environments

Environments	Characteristics	Compared to Burns and Stalker's Model
1. Placid-randomised	Relatively unchanging environment and posing least threat	Mechanistic structure
2. Placid-clustered	Environment changes slowly and threats are clustered to forces in the environment which are linked to each other rather than random threats. For example, some competitors joining forces to determine prices.	
3. Distributive-reactive	More complex environment. Many competitors with two or three large companies exerting influence over their environment.	Organic structure
4. Turbulent-field	Dynamic and high uncertainty. Elements in the environment are interrelated with a high rate of change.	

Table 4 Influence of new technology on industry type

Q2.2.2>

Q1.7 Count / Row Pct	Low 1	2	3	4	High 5	Row Total
1 Government	3 6.8	7 15.9	7 15.9	15 34.1	12 27.3	44 29.7
2 Defence	1 7.7	1 7.7	2 15.4	5 38.5	4 30.8	13 8.8
3 Exploration	1 7.7		1 7.7	6 46.2	5 38.5	13 8.8
4 Manufacturing	4 13.3	8 26.7	2 6.7	11 36.7	5 16.7	30 20.3
5 Service			3 75.0	1 25.0		4 2.7
6 Retail	1 12.5	1 12.5	1 12.5	2 25.0	3 37.5	8 5.4
7 Tertiary	1 12.5		1 12.5	2 25.0	4 50.0	8 5.4
8 Professional	2 28.6		2 28.6	2 28.6	1 14.3	7 4.7
9 Insurance & Finance			4 30.8	6 46.2	3 23.1	13 8.8
10 Computers				1 20.0	4 80.0	5 3.4
11 Other	1 33.3		1 33.3	1 33.3		3 2.0
Column total	14 9.5	17 11.5	24 16.2	52 35.1	41 27.7	148 100.0

Chi-square	D.F.	Significance
48.33249	40	0.1718

Table 5 Formalisation and the industry type

Crosstabulation: Q1.7 Industry type By Q1.10 Training dept

Crosstabulation: Q1.7 Industry type By Q1.12 Training Manager

Q1.7 Count / Row Pct	Q1.10 Yes 1	Q1.10 No 2	Row Total	Q1.12 Yes 4	Q1.12 No 5	Row Total
1 Government	35 79.5	9 20.5	44 29.5	40 90.9	4 9.1	44 29.7
2 Defence	13 92.9	1 7.1	14 9.4	13 92.9	1 7.1	14 9.5
3 Exploration	13 92.9	1 7.1	14 9.4	8 61.5	5 38.5	13 8.8
4 Manufacturing	8 26.7	22 73.3	30 20.1	14 46.7	16 53.3	30 20.3
5 Service	3 75.0	1 25.0	4 2.7	4 100.0		4 2.7
6 Retail	5 62.5	3 37.5	8 5.4	6 75.0	2 25.0	8 5.4
7 Tertiary	5 62.5	3 37.5	8 5.4	5 62.5	3 37.5	8 5.4
8 Professional	4 57.1	3 42.9	7 4.7	3 42.9	4 57.1	7 4.7
9 Insurance & Finance	10 83.3	2 16.7	12 8.1	11 91.7	1 8.3	12 8.1
10 Computers	4	1 20.0	5 3.4	5 100.0		5 3.4
11 Gther	1 33.3	2 66.7	3 2.0	1 33.3	2 66.7	3 2.0
Column total	101 67.8	48 32.2	149 100.0	110 74.3	38 25.7	148 100.0

Chi-square	D.F.	ignificance
38.03841	10	0.0000

Table 6 Managerial perceptions of the state of the immediate environment

Crosstabulation: Q1.5 Seniority by Q3.4 Immediate state of environment

Q3.4-> Q1.5 Count / Row Pct	Static 1	2	3	4	Dynamic 5	Row Total
1 General Manager			3	6	4	13
			23.1	46.2	30.8	10.7
2 Manager		12	12	25	24	73
		16.4	16.4	34.2	32.9	59.8
3 Other (Officers)	1	7	7	12	9	36
	2.8	19.4	19.4	33.3	25.0	29.5
Column total	1	19	22	43	37	122
	0.8	15.6	18.0	35.2	30.3	100.0

Chi-square	D.F.	Significance
6.11202	8	0.6347

Table 7 Unity of management training effort

Crosstabulation: Q1.7 **Industry** type
By Q2.1.1 **Written** management policy **defining training**

Q1.7 Count / R w Pct	Q2.1.1 Low 1	2	3	4	High 5	R w Total
1 Government	10 23.3	8 18.6	8 18.6	9 20.9	8 18.6	43 29.9
2 **Defence**	2 15.4		1 7.7	2 15.4	8 61.5	13 9.0
3 **Exploration**	1 8.3	2 16.7	1 8.3	5 41.7	3 25.0	12 8.3
4 **Manufacturing**	12 42.9	7 25.0	3 10.7	4 14.3	2 7.1	28 19.4
5 **Service**	1 25.0		1 25.0		2 50.0	4 2.8
6 **Retail**	1 12.5	2 25.0		1 12.5	4 50.0	8 5.6
7 **Tertiary**	2 25.0	2 25.0	2 25.0	2 25.0		8 5.6
8 **Professional**	1 14.3	2 28.6	2 28.6		2 28.6	7 4.9
9 **Insurance** & Finance	4 30.8	2 15.4	1 7.7	3 23.1	3 23.1	13 9.0
10 Computers				1 20.0	4 80.0	5 3.5
11 **Other**	1 33.3	1 33.3	1 33.3			3 2.1
Column **total**	35 24.3	26 18.1	20 13.9	27 18.8	36 25.0	144 100.0

Chi-square	D.F.	Significance
50.65764	40	0.1204

Table 8 Unity of departmental training effort

Crosstabulation: Q1.7 Industry type
By Q2.1.2 Written management policy

Q1.7 Count / Row Pct	Q2.1.2 Low 1	2	3	4	High 5	Row Total
1 Government	4 9.3	8 18.6	7 16.3	14 32.6	10 23.3	43 30.1
2 Defence	1 7.7	1 7.7	1 7.7	2 15.4	8 61.5	13 9.1
3 Exploration	1 8.3		2 16.7	6 50.0	3 25.0	12 8.4
4 Manufacturing	11 40.7	5 18.5	2 7.4	5 18.5	4 14.8	27 18.9
5 Service	1 25.0			2 50.0	1 25.0	4 2.8
6 Retail		1 12.5		2 25.0	5 62.5	8 5.6
7 Tertiary	2 25.0	2 12.5	3 37.5	1 12.5	1 12.5	8 5.6
8 Professional	2 28.6	2 28.6	1 14.3		2 28.6	7 4.9
9 Insurance & Finance	1 7.7	3 23.1	2 15.4	3 23.1	4 30.8	13 9.1
10 Computers				1 20.0	4 80.0	5 3.5
11 Other	1 33.3		1 33.3	1 33.3		3 2.1
Column total	24 16.8	21 14.7	19 13.3	37 25.9	42 29.4	143 100.0

Chi-square	D.F.	Significance
54.80539	40	0.0595

Table 9 Mechanism for reviewing and facilitating integration

Crosstabulation: **Q1.7** Industry type
By Q2.9.1 **Mechanisms for reviewing and facilitating the integration of the training department with other areas of the organisation**

Q2.9.1	Low				High	
Q1.7 Count / Row Pct	1	2	3	4	5	Row Total
1 Government	8 19.5	16 39.0	13 31.7	4 9.8		41 29.9
2 Defence	3 23.1	3 23.1	4 30.8	3 23.1		13 9.5
3 Exploration		5 41.7	3 25.0	1 8.3	3 25.0	12 8.8
4 Manufacturing	10 41.7	5 20.8	6 25.0	1 4.2	2 8.3	24 17.5
5 Service		3 75.0		1 25.0		4 2.9
6 Retail		2 25.0	1 12.5	3 37.5	2 25.0	8 5.8
7 Tertiary	2 25.0	4 50.0	2 25.0			8 5.8
8 Professional	2 28.6	2 28.6	2 28.6	1 14.3		7 5.1
9 Insurance & Finance	1 7.7	8 61.5	3 23.1	1 7.7		13 9.5
10 Computers		1 20.0	2 40.0	2 40.0		5 3.6
11 Other	1 50.0			1 50.0		2 1.5
Column total	27 19.7	49 35.8	36 26.3	18 13.1	7 5.1	137 100.0

Chi-square	D.F.	Significance
59.38567	40	0.0248

Table 10 Mechanisms for monitorina the development of wtential conflict

Crosstabulation: **Q1.7 Industry** type
By Q2.10.1 Mechanism for monitoring the development of potential conflict between the training department and other **areas** of the organisation

Q2.10.1

Q1.7 Count / Row Pct	Low 1	2	3	4	High 5	Row Total
1 Government	16 38.1	13 31.0	7 16.7	5 11.9	1 2.4	42 30.0
2 Defence	3 25.0	4 33.3	4 33.3	1 8.3		12 8.6
3 Exploration	1 7.7	6 46.2	2 15.4	4 30.8		13 9.3
4 Manufacturing	16 61.5	3 11.5	4 15.4	1 3.8	2 7.7	26 18.6
5 Service	1 25.0	3 75.0				4 2.9
6 Retail		3 42.9	1 14.3	1 14.3	2 28.6	7 5.0
7 Tertiary	5 62.5	2 25.0		1 12.5		8 5.7
8 Professional	4 57.1	1 14.3	2 28.6			7 5.0
9 Insurance & Finance	4 30.8	5 38.5	4 30.8			13 9.3
10 Computers	1 20.0	2 40.0	1 20.0	1 20.0		5 3.6
11 Other	1 33.3		2 66.7			3 2.1
Column total	52 37.1	42 30.0	27 19.3	14 10.0	5 3.6	140 100.0

Chi-square	D.F.	ignificance
57.29894	40	0.0374

Table 11 Mean and Standard deviation of the overall training system effectiveness and the environmental variables

Variable	Label	s e s	Mean	Std.Dev
Q 3.1	overall organisation effectiveness	n=122	3.615	.0875
Q 3.2	overall training system effectiveness	n=122	3.000	.9091
Q 3.3	organisational climate	n=122	3.139	.9648
Q 3.4	state of the immediate environment	n=122	3.779	1.0796

Table 9.12 shows the Pearson product movement correlation matrix

Table 12 Pearson's Product movement Correlation Matrix of the overall trainina svstem effectiveness and the environmental variables.

Correlations:	Q3.1	Q3.2	Q3.3	Q3.4
Q3.1	r= 1.0000 P= .	r= .2702 P= .003	r= .4620 P= .000	r= .1289 P= .157
Q3.2	r= .2702 P= .003	r= 1.0000 P= .	r= .1319 P= .148	r= .0505 P= .580
Q3.3	r= .4620 P= .000	r= .1319 P= .148	r= 1.0000 P= .	r= .2203 P= .015
Q3.4	r= .1289 P= .157	r= .0505 P= .580	r= .2203 P= .015	r= 1.0000 P= .

(Coefficient / 2-tailed Significance)
"." is printed if a coefficient cannot be computed

Table 13: Relationship of the training system effectiveness criteria to the overall organisational effectiveness (Q3.1) at confidence level W > .01.

Training systems effectiveness	Pearson's r	p*
Q2.17.4 Cohesiveness in decision making	.47	.000
Q2.12.5 Problem-solving orientation of training manager	.38	.005
Q2.17.2 Problem-solving orientation of training staff	.37	.006
Q2.7.1 Company-wide training need analysis	.37	.006
Q2.17.3 Conceptual flexibility of training staff	.36	.007
Q2.22.2 Training staff are good at adapting to changes	.36	.008
Q2.11.2 Quality of training programs	.36	.008
Q2.16.2 Training staff have appropriate training	.36	.008
Q2.13.3 Negotiation flexibility for changing standards	.35	.010
Q2.22.1 Anticipating training issues and needs	.34	.011
Q2.8.2 Proactive training	.34	.012

Q2.18.1 Openess and flexibility of communication among training staff	.34	.014
Q2.20.2 Mechanisms for conflict resolution	.32	.018
Q2.4.4 Existence of database	.32	.018
Q2.15.1 Individual and group motivation	.31	.023
Q2.8.1 Reactive planning	.29	.033
Q2.21.3 Training importance in the organisation	.28	.041
Q2.18.2 Communication between geographically separate training staff members	.28	.044
Q2.19.2 Equity of training manager's allocation of resources	.27	.047
Q2.4.1 Communication between training staff and line management	.26	.056
Q2.21.1 Training department and staff reputation	.26	.058
Q2.9.2 Channels of coordination	.26	.061
Q2.19.3 Staff inputs to planning	.26	.061
Q2.11.1 Training staff performance	.26	.064
Q2.2.2 Programs associated with new technology,	.25	.071
Q2.13.1 Established standards of professional competence	.24	.080
Q2.11.3 Productivity of training staff	.24	.083
Q2.16.1 Qualification of training staff	.24	.089

*Exact Pearson's two-tail significance

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