Rare antiques, fine furnishings and vintage champagne: new learning techniques and educational themes in 2001.

Supporting Change in Learning and Teaching

M.E. Burke
Department of Information and Communications Manchester Metropolitan University

Geoffrey Manton Building Rosamond St. West Off Oxford Rd
Manchester England United Kingdom M15 6LL TEL 0161 247 6136 FAX 0161 247 6351
m.burke@mmu.ac.uk

Abstract: This paper will examine how organisations operate their internal environment to optimise best performance for both teaching and learning. Within this context the author will discuss the impact of using new technology on students studying business intelligence modules. The metaphors of rare, valuable antiques (traditional teaching); fine furnishings (assessment techniques) and vintage champagne (new ICT methods of learning) will be used to give a flavour of the freshness of educational approaches to education in the 21st century.

Introduction

The term internal environment refers to all business matters contained within the boundaries of an organisation. This can include such factors as the formulation of goals, the determination of objectives, the creation of policy, the implementing of policy, the goal outputs - and some form of performance measurement of the goals.

The character of the internal environment is shaped by the way in which information flows around the organisation structure and by the information resources and systems used by the organisation. However the internal environment is inevitably influenced by the forces which shape the external environment and these forces can be referred to as the driving forces of the internal environment.

This paper is divided into six sections which examine various facets of the internal environment. The first section examines the structural design of organisations whilst the second section identifies the driving forces of the internal environment. The third section deals with the information flows and information patterns within the organisational. Section four looks briefly at information systems which are used to control and shape the internal environment. Section five identifies what, if any, new skills are required to manage the internal environment. The final section gives a practical example of the management of an internal environment at an academic department concerning the impact of IT in teaching and learning.

Structural Design

One way in which the internal environment can be wholly influenced is by the way in which the organisational structure is designed. The perennial question in this area is whether the function of an organisation can influence the structure of the organisation. In order for us to decide on what skills are needed for managers in this area we need as much information as possible about the nature of organisations.

According to Tushman and Nadler (1) “The generally accepted view of organisational design that has evolved is that the structure of an organisation should match or fit characteristics of certain variables both inside and outside the organisational system”. They go on to comment that the main question in design has been to identify variables that will enable researchers to make consistent and valid predictions of what kinds of organisational structures will be most effective in different situations. Another important finding from their work is the classification of assumptions about how organisations function. The following is a brief summary of these assumptions:

1. Organisations are open social systems which need to deal with areas of uncertainty. In order to deal with this uncertainty the organisation must develop information processing mechanisms, which can deal with external - and internal areas of uncertainty.
2. Organisations can be viewed as information processing systems in order to facilitate the effective collection, processing and distribution of information.
3. Organisations can also be broken down and viewed as a set of sub organisations or divisions and departments. It is important to examine the best design of each division rather the whole design of the entire structure.

These theories were proposed in 1978 and much work has been done in this area since this time. However, for our purposes we need to compare how these ideas have been affected by the changes up to the year 2001.

1. Areas of uncertainty - have increased to the point where there is no longer any area of solid facts. Change is so vast and all encompassing that organisations have had to find new ways of managing the information – hence the rise in popularity of what is now known as Knowledge Management.
2. Organisations as information processing systems. These systems have been radically affected by the development in telecommunica- tions and technology. Information systems are specifically designed to assist with this role.
3. Organisations as subsets - because the nature of work has changed so radically the organisations have had to become much more task orientated.

Two other assumptions derived from recent work developments are that there are no longer any set patterns of working and that technology is now a major driving force. However it must be noted that whilst such theories can aid organisational design they cannot “guarantee organisational success due to the fact that the effective- ness of a structure is fundamentally determined by the uncontrollable elements of human nature Burke and Tulett” (2).

So in practice is organisational design really about flexible restructuring to fit the function of the organisation? If so, then management
Rare antiques, fine furnishings and vintage champagne: new learning techniques and educational themes in 2001.

of the internal organisation must be about the management of change.

Driving Forces

The driving forces of an organisation are the factors which really pull and push an organisation into a certain pattern. The factors are usually opposing forces and the organisation has to position itself at a place to balance the forces and to ensure that it is in a position of some control.

What used to be known as Information Technology is one of the most powerful forces which affect an organisation. This powerful factor has now developed to such an extent and had such a wide-ranging impact on communications that the term IT in itself is no longer really appropriate to describe the way in which we use technology in the 21st century. The term Information and Communications Technology (ICT) now more accurately describes the way in which IT is used in organisations today.

What factors then drive the technology and therefore the information systems of an organisation? In order to answer this question we need to take a step back and examine the initial IT patterns of some years ago. Ten years ago Addison (3) stated a list of factors which drove the broad pattern of the use of IT. These were

- An organisation’s need to continually improve and evolve.
- The human and social factors resulting from IT i.e. changing methods of working.
- The fact that IT products change, grow and improve in performance and accessibility.
- The pressure of IT producers.
- The growth of specialist skills.
- The growth and changes in organisations.

It is now possible to take a second look at these factors and apply them to life in 2001. In this way it is possible to establish how these particular driving forces have changed and evolved into new patterns.

- An organisation’s need to continually improve and evolve. - This factor is especially relevant in the rapidly changing world of the millennium. Many new types of organisations are developing with different forms of structures from those seen in the past.
- The human and social factors resulting from IT has led to more flexible ways of working due to the development of fast effective telecommunications. The increase in “remote” methods of working has had an impact on the way in which managers are able to motivate and indeed manage the human resource in general.
- The growth in IT products, the improvement in performance and accessibility is one of the most powerful of all the driving forces. The new technology available in 2001 is increasingly able to link together different modes of communications e.g. the use of WAP (Wireless Application Protocol) on mobile telephones has enabled email, text messages etc. to be received in increasingly portable ways. Other examples include the enabling of e-mail and Internet access through home television sets.
- The pressure of the IT producers - the competition is fierce and prices and product performance has become even more competitive. The problem of a few large companies dominating the industry has been recognised and this may lead to yet another shift in industry patterns in the near future.
- The growth of specialist skills - this is very relevant in the year 2001 - the crucial need for all employees to have the skills necessary to navigate the new ICT systems. Education at primary school level is changing as children become computer literate at a very early age. In addition most organisations have now recognised the need for continuous training in this area.
- The 21st century has also seen growth and changes in organisations from traditional hierarchical pyramid structures to flatter and more stream lined structures. Also of note is the growth of the multi nationals - and the power with which they can dominate a particular industry.

It can be seen then, that all these pressures form the driving forces of the internal environment as each of the factors affect the working conditions and the culture within the organisations.

Information Flows

Information can be said to flow either horizontally or vertically through an organisation. Both types of information flows are important for different reasons and need to be carefully managed both as separate entities and as a combination. It is also essential to carefully co-ordinate the way in which technology is used to control the system.

Information which flows vertically through an organisation should “map” onto the structure of the organisation. The information normally flows from the managers at the top of the organisation down to all the middle managers and sections towards the bottom of the organisation. In an ideal world the flow of information should be in both directions i.e. flow both up and down the organisation. However there are three problems with this type of information flow. First, at each level of the structure the information can be changed or filtered (either deliberately or by accident) thus what may have started out as clear information at the top may result in confused messages at lower levels in the organisation.

The second problem with the horizontal information flow is that information can be regarded by some members of the organisation as a crucial “power source”. The fact that managers (and employees) are able in some way to control the data may give some members a sense of power which cannot be overlooked. The information can then be used to play political “games” within the organisation. This skilful playing - and winning of organisation games can be of vital importance - and the success may lie in having the ability to analyse the games of others and manipulate a situation so that the driving forces are turned in the favour of a particular organisation.

The third problem with vertical information flows is that there is little sharing of information between sub units in the organisation as the flow is vertical and does not move horizontally. This can then cause problems of ineffective communication.

The impact of new technology on horizontal information flows has been that the manager no longer has the power to store or release information, the messages are no longer subject to confusion and the staffing structure of the organisation may also be subject to change. Most organisations today already have some kind of basic computerised information system. However as the technology becomes increasingly advanced and more embedded in the structure of the organisation a strategy must be prepared which allows a new organisation (and its employees) to evolve and adapt to the new internal environment.

Vertical information flows can be defined as information which passes between department and divisions and which crosses the boundaries of the managerial reporting structure. Thus the information which flows vertically across the organisation is used to control the various functions of an organisation.

As organisations grow in size and complexity the need for strict control of information in order to provide a service or manufacture a product within exact specifications is increasing. Thus the need for more tightly controlled and co-ordinated information systems becomes a major requirement and investment of most organisations.


**Information Systems**

Design of the internal environment is something which is often ignored as managers tend to concentrate on balancing the external pressures and every day administration - but there is a way in which the organisation can both design the internal environment and exert some influence on the position of the organisation. This can be achieved by the carefully planned implementation and execution of the organisation’s information system.

The key points to consider when considering and planning new information system are:

- What are the information requirements of the organisation?
- What is the present strategy of the organisation?
- What are the future plans of the organisation in terms of the product strategy?
- What training schemes are available for present and future staff?
- What are the staff working patterns?

As organisations develop more tasks become project orientated and employees work either as individuals or in teams. Establishment of the usual patterns of work is a vital area which needs close monitoring in terms of the changing information needs.

When designing an information system flexibility and thorough and accurate knowledge of the plans and workings of the organisation is essential - all the information systems must be able to rapidly adapt to change. Control of the internal environment becomes increasingly important in order to provide some form of stability to the organisation.

**Required Skills**

Having examined the internal environment what new skills are required for the manager in the 21st century? The main points seem to be the change from a reasonably static and stable environment to management of a more fluid flexible environment which moves back and forth along a spectrum never really anchoring in any one place.

Control of this new environment requires some new skills combined with more traditional management skills such as:

- The ability to establish design structures which “fit” both the internal and the external environment.
- Effective communication with information systems teams.
- New role with more emphasis as designers of organisations structures.
- Ability to be flexible.
- Ensuring good control of Knowledge Management at all levels in the organisations.
- Astute powers of analysis in order to create the appropriate internal environment.
- Ability to manage within a continuous shifting of patterns rather than a stable environment.

Control of the internal environment is possible but it must happen in harmony with the external environment. It must be a manager’s task to constantly monitor the internal environment and to ensure that all members of the organisation are kept aware of changes. There is now the technology to ensure that this does happen e.g. through intranets which can be kept constantly up dated. Technology, new systems and skills can be used to push organisations further forward ready for the future and life in the 21st and 22nd centuries.

**An example: practical control of an internal environment**

One example of the way in which an internal environment can be controlled is the way in which academic teaching and learning has had to adapt to the impact of technology. Both academic and students have had to learn to manage the resulting new internal environment.

The notion of traditional teaching as a rare and valuable antique is abhorrent to most people. When we think of traditional teaching most people think of “one to one” tutorials or small seminar groups where students present papers and discuss ideas. However the reality is that the impact of technology on the teaching medium has been (and continues to be) fairly dramatic. Students now study online, they have on-line group discussions, they communicate by email and lectures can be posted almost in their entirety on certain custom-built document delivery system software. The concept of teaching can equally be seen to be about learning. Learning in a variety of ways can be seen as the metaphor of the “fine furnishings” of a sumptuous palace or a stately castle. It is the way which the minds of students can be improved. There are many theories about how students learn and many theories concerned with the effectiveness of different assessment techniques. Technology now allows students to search the internet for information. It also students to be assessed on-line in addition to more formal routes of assessment such as exams, presentations, standards essays and report writing.

The third part of the metaphor that of vintage champagne is used to describe the latest development in ICT methods of learning. At Manchester Metropolitan University a new form of computer software known as ‘Courseware’ is used where all members of staff have the ability to “post” on the Department of InfoComms intranet a weekly summary of the curriculum, the entire assessment and the reading list. In addition lecturers are able to manipulate the package as they wish and may put up full lecture notes for each weeks teaching block. In the business intelligence modules the software has been used to state the expected learning outcomes each week rather than display full lecture notes. The business modules within the Dept of Info Comms consist of Business Marketing; Business Global Perspectives, Business Strategies and Business Information. Each are studied by different sets of students at different times yet each student has the freedom to look at the information about all the modules. In addition a key text - Burke and Hall (4) is available which was written specifically for these modules. Exercises which link together both the book and the lectures have also been posted on another intranet. In this way the business students are developing different learning techniques and new skills whilst the academics are learning about how to manage this new aspect of the internal environment. The use of this software is not without difficulties. Attendance at some classes has dipped considerably as students merely download course notes - they can fulfil most of their information needs by sitting down at a networked computer and so a full time course is inevitably in danger of being (seen) as a semi-distance-learning course. However in reality these are minor issues which will be smoothed out as experience grows of using and adapting the new technology as an increasingly sophisticated teaching tools. What is important at the moment is that there really is a clear ability to manage the new internal environment of a large organisation and within this context to really enjoy the flavour and freshness of educational approaches in the 21st century.
Rare antiques, fine furnishings and vintage champagne: new learning techniques and educational themes in 2001.

References