Innovation

"As the births of all living creatures are, at first, misshapen, so are all innovations..."

(Francis Bacon, 1625)

This paper examines how innovative characteristics can be developed in organisations which wish to be innovative, to develop a learning culture and to do so in such a way that the Organisation can enjoy market success.

What is "innovation"?

To encourage innovative change - and not all change is necessarily innovatory - a manager needs to understand what innovation is, what enables innovation to occur and what acts to block it. Dr William Coyne, Senior V-P, R&D, 3M Corporation, giving the sixth UK INNOVATION LECTURE at the Queen Elizabeth 11 Conference Centre on the 5th March 1996, defined innovation in relation to creativity as follows-

Creativity: The thinking of novel and appropriate ideas

Innovation: The successful implementation of those ideas within an Organisation

ie: Creativity is the *concept,* Innovation is the *process*

Some 20 years ago, the Centre for Exploitation of Science and Technology (CEST) defined[1] the *Innovation Gap* as the gap between vision and reality, between the idea generation and analysis which identifies the potential of a new idea or process (Coyne's *creativity)* and its implementation, from *foresight to wealth creation.* Coyne described a similar concept at *3M* which they label *while space;* this is the gap between existing products and the identified market need. An organisation needs to have mechanisms for identifying and occupying the white space.

The process of Innovation (bridging the gap between technical creativity and market) need can be-.

- *evolutionary*, undertaken on a planned basis, or
- *revolutionary*, serendipity which cannot be predicted but which the organisation must be alert to and supportive of when the occasion arises.

The CEST report further argues that innovation in companies is an imperative driven by a combination of *market globalisation* and the *rate of technological change*. This has led to competition being driven increasingly by the need to maximise the value of products by the combination of product and service capability, and the business processes which deliver them. A linear model of R&D, where innovative technology flows downstream to the market is no longer valid[2].

The goal of all organisations should be to become *Learning Organisations*, to be able to reflect on, learn from and change as a consequence of experience. This property (known as *autopoesis*) is present in many systems; the human organism is the most successful example. The trick is to build organisations which possess the property in their component parts, enabling them to transfer learning from successes and failures in one part to others.

But the ability learn must be coupled with success in the market-place; it is not enough to be able to learn how to develop new operations at optimum cost - this must also find favour with the customers of the organisation.

---

1 Bridging the Innovation Gap (1995) London: CEST

2 Rothwell, R (1992) Successful Industrial Innovation: Critical success factors for the 1990s R&D Management, Vol. 22/' pp 221-239

The University of Sussex Science Policy Research Unit in its "Project Sappho" identified five factors associated with organisations achieving commercial success with technical innovation:

1. They understand user needs
2. They pay attention to marketing
3. Development work is undertaken efficiently (but not necessarily more quickly)
4. They make effective use of external technical advice
5. Responsibility for innovation is at a senior level with more authority

It has been suggested that organisations use innovation in the market in three different ways:

1. *Terminator* (seeing off the competition completely, as railways did to canals, electric light to gas light, and digital cameras to film)
2. *Leapfrogging* (keeping one step ahead of competitors, as Google and EasyJet do)
3. *Nibbler* (eating away at competition, by exploiting niches as Body Shop did and as Apple does).

The Terminator often relies upon identifying radical technology or procedures at a time when the market is mature and frequently dominated by a few major players. *Leapfrogging* is best illustrated by Microsoft, which has been studied by Michael Cusumano of the Sloan School of Management, MIT, who has identified five key features in their strategy:

1. Hire the best people from Universities and from other companies - but best doesn't just mean technically highly qualified but those who demonstrate that they can apply their knowledge in practical, market-led ways.
2. Avoid compartmentalisation - mix together project teams, including Marketing, so that development is led by what the market requires, and that Marketing staff only sell what is actually deliverable.
3. Don't be ambitious - only design simple features into new products and then develop them continuously to make them more complex later. This avoids risk, cuts down development (idea to market) time and simplifies the development process.
4. Parallel development - multiple teams work on different aspects of the software, meeting frequently to synchronise development, rather than developing sequentially across a broad front, progressing through a series of separate stages.
5. Enable developers to learn from their successes and failures - using mechanisms like post mortems to find out where things went right and wrong.

Microsoft, by perfecting this strategy have managed to stay one jump ahead, despite making many mistakes. Eric Karmel, an American researcher, examining software houses on the West Coast has described the general strategy, common to many software houses. The most successful software developers rush into the market with a new product - those that succeed in the longer term then back this up with proper QA and greater rigour and control once they have built up a customer base - the anarchists lead the way, followed by the conformists who tidy up after them.

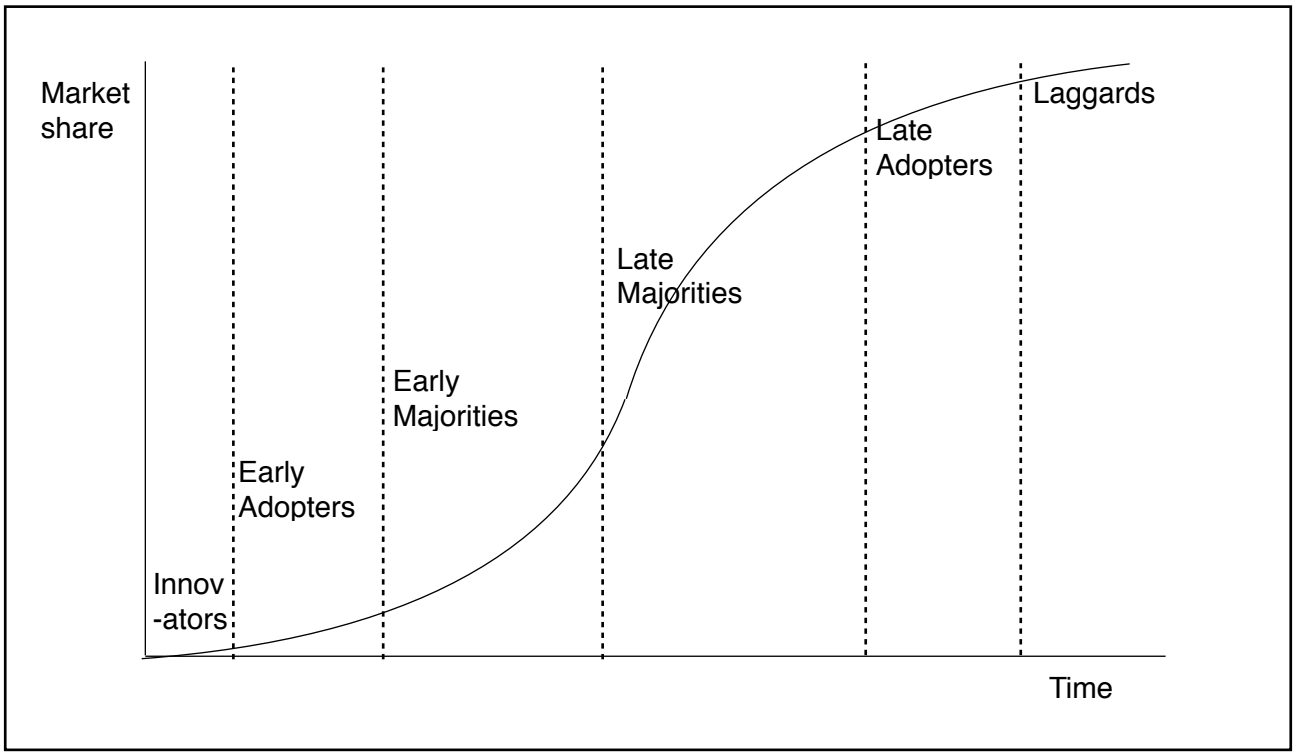
The Nibbler strategy, eating away at markets by using innovation to exploit niches can be of great value when the market is so large that the niches are substantial markets in their own right. Apple has successfully come to dominate several markets; its computers are dominant in the publishing and design sector, the iPod dominated in the MP3 (music player) market, and its has become the lead player the smartphone market.

Market acceptance of innovation

Innovation within organisations is of little value if it is rejected by the market-place. The market response to innovation Is demonstrated by the Diffusion Curve, an ogive shaped curve showing the rate of market penetration of innovations, which will be familiar to many as the 'front end' of the product life cycle curve.

This pattern of participation is based on assumptions about the willingness of different sectors of the market to respond, in differing degrees, to new opportunities. These have been classified as

Innovators	who seek out new products and experiences
Early Adopters	who will respond quickly to new trends
Early Majorities	who respond less quickly to trends
Late Majorities	who are more resistant to trends but will take them up when they have become widely adopted
Late Adopters	who tend to take up Innovations only when they have become the norm
Laggards	who will stick with the old ways until they are forced to change



For the organisation intent on developing new products or services, or innovative ways to market, whatever the market it is addressing, there is a need to be aware that the market response may be conditioned by a general reaction to innovation. If the total market is small and the number of 'innovators' and 'early adopters' is a small fraction of that total, the potential market in the first two or three years may be less than anticipated.

Innovation and organisations

Bill Coyne identified six characteristics of 3M which, he suggests have enabled the company to be regarded as innovatory, despite their size and age as a corporation. These characteristics are:

1	Vision:	Not just a sense of purpose but a purpose which explicitly includes innovation and one which is constantly translated into practice by employees. *Vision* is where we want to go.
2	Foresight:	The ability to predict accurately where customers are going, how they will react to the changing environment in which they live. It involves identifying their needs, both the *articulated* need, reflecting problems which customers are aware of (e,, to replace CFC as a propellant in aerosols), and *unarticulated* needs, those requiring a real insight into the customers' situation (eg the need seen by Dick Drew in 1923) for masking, tape in vehicle repainting at a time when two-tone cars were becoming popular or Art Fry's application of a low-adhesive to notelets which produced Post-it notes). The difficulty of identifying these unarticulated needs can be reduced by seeking out *lead users* - those people whose exacting demands and advanced applications of products tell you something about the likely direction the industry is taking.
3	Stretch goals	Vision and foresight help to set a culture of innovation, but people need to be pushed to go beyond simple incremental improvements. 3M's stretch goals include: ✷30% of sales to be from products introduced in last 4 years ✷10% of sales to be from products introduced in last year This creates a sense of *urgency;* innovation is time sensitive, missing market opportunity can seriously reduce profitability.
4	Empowerment	This means more than empty rhetoric-, it means giving people some say over how they use their time - at 3M technical staff have the right to spend up to 15% of their time on projects of their own choosing. This is not measured but is a notional concept which creates a climate in which individuals initiative is positively *expected* - a form of institutionalised revolution! For every 1,000 ideas, only 100 become formal proposals, and only a few of these new product ventures - of which over half fail.
5	Communication	This means creating an open organisation in which horizontal contact and networking is possible, enabling multi-disciplinary teams to be created and the cross-fertilisation of ideas to occur. many new ideas involve the application of exiting technologies to new product areas (eg of micro-replication from optical to mechanical and then to electronic applications). This communication is based on three ground rules: a. products belong to divisions but technologies belong to the company; b. multiple methods for sharing information, including technical fairs and forums managed by the technical staff, pus technical audits to identify technology transfer possibilities; c. staff are told that networking is their responsibility, but communication systems and the 15% rule facilitate that process

6	Rewards and recognition	Award programmes covering innovation, often based on peer recognition, promotion on a *dual ladder* to either advanced technical grades or to management posts, but not direct financial rewards for specific innovations - that's their job!

These characteristics are not sufficient for innovation to occur, but they have been necessary in '3M's case, and allowed it to remain a leading player in a wide range of rapidly changing markets. These characteristics can be compared to Kanter's three sources of innovation power (below) - *information, resources and support.*

For many organisations, the *vision* has been too hazy, the *foresight* lacking, and the *stretch goals* seen as hurdles. *Empowerment* is unlikely at times of deep uncertainty about employment prospects and *communication* is a frequently cited weakness, whilst the *reward system* is often criticised for its favouring management over other employees.

CEST explored how organisations respond to innovation, based on size and technology dependence and found that:

1. The capacity to do research and to scan and make use of external R&D are closely linked
2. Organisations are either R&D intensive or do no in-house research (ie, there is no intermediate state)

They conclude that:

- It Is not difficult to acquire technological competence, but it requires resourcing and motivation.
- Decentralisation creates internal barriers to technology transfer and innovation, as divisions seek divisional benefit not corporate benefit.
- External research is given low priority
- Supply of technology through technology transfer infrastructure not a problem; problem is demand-side.
- Bottleneck in organisational absorption of innovation and lack of specialist suppliers of technology
- Firms driven by competitive pressure and need for externally perceived excellence.
- Companies learn best from other companies

Innovation and power

Innovation is a product of two interacting forces, people and systems. People are necessary to initiate innovation and systems are necessary to encourage (or inhibit) them. But for people to be able to innovate in ways which involve changing systems, they must be able to Influence the decision-making process, and decision-making is ultimately about power. It is through the ability to decide that power is exercised, to make significant and discontinuous change happen.

A manager must either possess the power, or must identify who has the power, to make things happen and who has the power to prevent it. This means finding out what their priorities are and working to them; challenging someone's aims or values is an ineffective way of building alliances. The power of a development project team is likely to be derived power, derived that is from being in a development project which is sponsored and supported by senior manager(s); when the sponsors are from outside the Organisation, the team can only succeed if they can derive power from inside to make things happen.

According to Rosabeth Moss Kanter[3], there are three basic commodities from which organisational power is derived and which enable innovatory change to take place. They are:

- Information (*Data, technical knowledge and expertise, political intelligence*)
- Resources (*Funds, materials, space, staff, time*)
- Support (*Endorsement, backing, approval, legitimacy*)

The first of these, Information, means that managers must ensure that they possess knowledge about the nature of the new processes that they are proposing to introduce. They should as individuals or, preferably, as a group, set out to be the authorities on the issue involved and on its implementation in other colleges. They need to harness the economic value of a group by seeking knowledge and sharing it on a managed basis-, taking responsibility for investigating particular areas and becoming the "group expert" on that., identifying sources, making contacts and undertaking reading. The sum of the individual expertise generated will be greater than the amount each individual could hope to develop in the time and with the resources available.

Whatever resources are needed., there will never be enough-, that is a simple principle and one which must be recognised. Managers must identify what resources there are available and make the fullest use of them and build alliances to share resources form other sources. They shouldn't attempt to duplicate what is being done elsewhere in the organisation, but look for ways of opening things up to get more out of a particular strategy. The time available must be used as effectively as possible by planning activities, allocating targets and reviewing progress on a regular basis, not getting side-tracked and allowing interesting activities distract them from important ones.

The systems within which people work can also enable or inhibit innovative development activity; 'open' systems have the necessary properties for innovation to occur. These properties are:

- Boundaries may change during problem-solving
- Novel and unexpected ideas possible
- Unpredictability inherent in the system
- Outcome of solving is 'possibilities' which are outside logical bounds - they create a new logic
- The creative process can be indirectly influenced but not totally controlled

In Peters' terms these are organisations which 'thrive on chaos'; more specifically, they are organisations which recognise that an ordered and regulated Organisation may be easier to control but it doesn't reflect the environment outside and it discourages a response to changes there. The 'closed' system is characterised by:

- Fixed boundaries
- A developmental process marked by definable outcomes, reducing scope for new ideas
- Problem-solving is often conscious, logical, 'algorithmic' (pre-determined)
- Outcomes must be testable answers or provable
- The problem-solving process can be described from the outset, based on previous similar problems

(Rickards *Stimulating Innovation: A Systems Approach* Frances Pinter: 1985)

---

3 The Change Masters Allen & Unwin 1983

Innovation strategies

Innovation strategies refers to the nature of the process used to encourage innovative action to occur. Innovation strategies can be of three types:

1. *Mission-oriented*
2. *Negotiative*
3. *Action research*

A Mission-oriented strategy will have the following characteristics:

- A defined goal, derived from the mission and accepted by the existing subsystems and their boundaries
- Its success criteria are agreed
- Implementation is important and the strategy will tend to be led by a product champion
- Problem-solving and leadership are task-orientated within the mission boundaries.

A Negotiative strategy would be characterised by:

- Having goals which cut across subsystem boundaries and may not therefore be accepted by system members
- The need to negotiate success criteria
- The necessity for- boundary spanning and for values and rnind-sets to be challenged
- Implementation will require the resolution of conflicting needs which in turn is dependent on the participants accepting the strategy
- Problem-solving and leadership being task-orientated but subject to creative resolution and compromise of boundary problems.

An *Action research* approach is process rather than outcome orientated and characterised by-.

- Goals not being identified and system boundaries being redefined to create new or integrated systems
- Success criteria emerging during the transformation process
- An iterative process of developing strategies-, their development and implementation alternate in a dynamic process
- Problem-solving being contingent on its context; innovation occurring through incremental change

How do such innovation strategies relate to quality management strategies, such as TQM? Dominic Swords of the Innovation Research Centre at Henley Management Centre suggests that there is a need for innovation strategies to be implemented in appropriate context. For example, one of the world's major international airline's published values include a commitment to getting it right first time, continuous improvement and innovation. These can be characterised along a continuum from tight to loose, reflecting the degree of organisational control needed to fulfil those values:

TIGHT Get it right first time Continuous improvement Innovation LOOSE

The significant question is:

"Which of these strategies would you want the pilot to use when landing the plane?"

The approaches are not mutually exclusive; getting it right first time requires adherence to clear procedures and standards; continuous improvement can lead to improved procedures and higher standards over time, whilst innovation provides the breakthroughs which fundamentally re-shape procedures and set radically new standards.

What shapes the selection of an innovation strategy?

The innovation strategy employed will reflect the organisation's willingness to tolerate tile upset which innovation can bring; the more resistant it is to change the less able it will be to tolerate innovative 1 ideas which challenge existing ways of working. This reflects the dominant mind-set of managers in the Organisation, their attitudes, values and beliefs, which in turn dictate the range of available options they are able to tolerate.

Muntzberg (1978: *'Patterns in strategy formulation'* Management Science Vol. 24 No. 9) suggests that these dominant mind-sets gain historic validity (are valid because of past success) but can be dangerous if the environment changes. He classifies three such mind-sets:

1. **Entrepreneurial:** the Organisation seeks to influence the environment, actively seeks new opportunities and is very goal-orientated. This assumes an unstable but predictable environment. This suggests a Mission-orientated strategy will be adopted.
2. **Adaptive:** the Organisation reacts to events in a step-by-step way, with disjointed decision-making, which assumes an unstable and unpredictable environment. This would most readily be accommodated by an Action Research strategy.
3. **Planning:** the Organisation is analytic and systematic in its approach, wanting to understand the environment and integrating decision-making into a complex whole, based on assumptions about a stable and predictable environment. A Negotiative strategy would be most readily facilitated.

Freeman *('The Economics of Industrial Innovation'* Frances Pinter: 1982) developed a six category schema for classifying organisational willingness to engage in innovation. His six categories are:

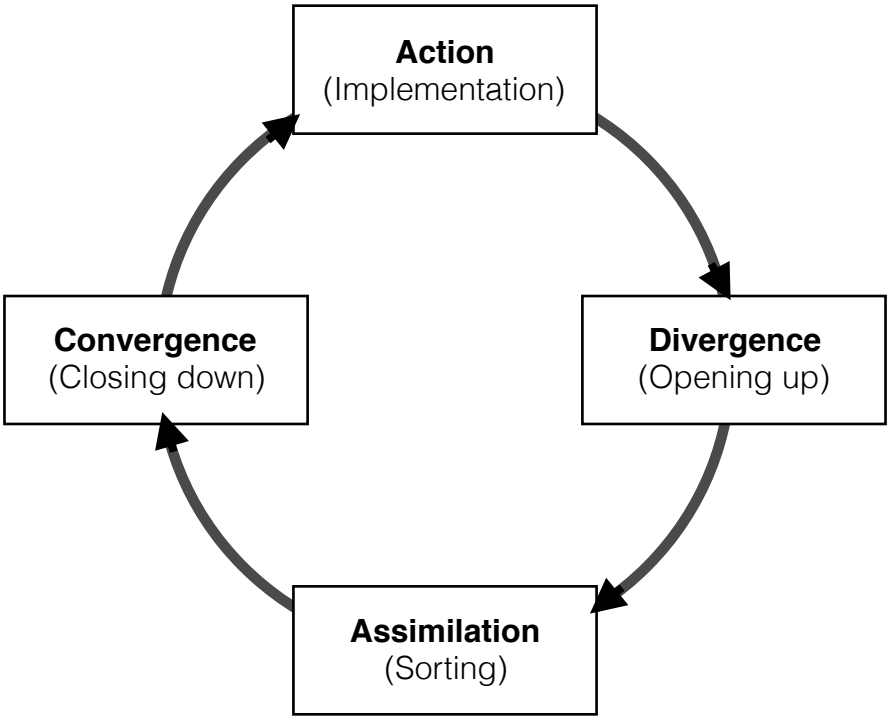
1. *Offensive:* acquiring market dominance by innovation through a high level of competence and technical skill
2. *Defensive:* a low risk innovator with a high level of technical skills
3. *Imitative:*a low risk innovator with less technical skill that relies on copying ability
4. *Dependent:* led by a dominant partner
5. *Traditional:* resists innovation and services a niche market
6. *Opportunist:* an entrepreneurial Organisation that identifies a market niche that either doesn't need technical skill or where it can be purchased.

This set of categories is defined by its external orientation and not by its mode of response, thus it is possible for alter-native strategies to be employed, but some are more likely to be attractive than others.

Facilitating innovation

The principle of the "Innovation Cycle" is a useful one to use when encouraging others to look for new perspectives on the curriculum or new ways of doing things. Knowing about the Innovation Cycle enables you to lead colleagues through a more creative process than just relying on bright ideas to surface. The Innovation Cycle consists of four stages:

THE INNOVATION CYCLE



These four stages start with **Divergenc**e, the "opening up" stage; this means encouraging team members to come up with as many new and different ideas as they can, with no limit on imagination - the more outrageous the better. This is the chance to describe "Ideal types", to think laterally, to look for ways of doing things which have never been thought of before because they turn received opinion upside down. Practicality must not be allowed to interfere with the generation of ideas, and quantity of ideas is better than quality.

Assimilation is the stage at which the ideas are sorted and their value is judged. it is important not to discard those which are different just because they are different but to sort through them and find the bits that are worth using. This is the stage which takes most time and is when the real breakthroughs can occur, when the impossible starts to be seen as the possible. It is valuable still to have more ideas than can actually be used after this stage for the move onto **Convergence** or "closing down", deciding just what to go ahead with. The criteria for agreement before making the decision should be agreed, so the selection of the final choice[s] is based on rational decisions and not just what people feel most comfortable with.

The final stage is **Action**, implementing the decision. Here is the time to make use of Project Management tools and processes. The team should make sure that in the planning and activities they keep remembering that innovation is often a threat to those for whom it may offer the most benefits. They must always be prepared to sell their ideas and listen to others concerns; as Margaret Thatcher said about Lord Young, when he was Minister of Employment

'My other Ministers bring me problems, but David brings me solutions'. People will always be welcomed if they can solve other people's problems!

Leading innovation

The leaders of innovation teams must be one step ahead in the innovation cycle, ie in their own learning. This establishes a goal-setting mode of operation in the teams' task behaviour. The role of the leader is primarily to facilitate innovative ideas in others, to lead them through the cycle.

Divergence, the opening up of ideas, is primarily about variety generation. This involves:

1. Systematic searching for ideas, inside and outside the organisation*
2. Quantity breeds quality - avoid satisfying behaviour ("good enough")
3. A "Yes and" rather than "Yes but" mentality - good ideas get killed too quickly by finding reasons not to accept them. An innovation leader must encourage a "can do" mentality, where problems are to be overcome not accepted as obstacles.

Assimilation (sorting) and Convergence (selection) involve a two stage closing down process. This can be done by-.

1. Clustering - bringing together similar ideas.
2. Using hurdles, increasingly difficult constraints which the selected strategy must fulfil.
3. Ranking, using techniques such as matched pairs and forced choice
4. Weighting - awarding points according to the presence or absence of desired/undesired attributes.
5. When all else fails, using instinct - what feels rights

Action - the implementation of creative solutions to problems - is assisted by

1. Open communications, assisted by strategies and structures which avoid a sense of imposition out of the blue; the process of developing innovative solutions should not be cloaked in secrecy, intentionally or by inadvertence.
2. Reward systems, not necessarily financial ones, which encourage and recognise innovation.
3. Autonomy for individuals, allowing people to find different ways of solving the same problems, fostered by a diversity of views within the Organisation.
4. Senior staff acting as role models, creating a climate in which innovation is welcomed, leading change and not seen to be resisting it.

(Source: Tudor Rickards *'Stimulating Innovation: A Systems Approach')*

However, research by PA Management Consultants in the 1970s suggested that organisational resistance to innovation can become endemic, based on dominant mind-sets which create self-imposed barriers to change, often supported by unwarranted assumptions about the effectiveness or otherwise of existing and new approaches. It is characterised by 'one-correct answer' thinking and failures to challenge the obvious ("it ain't broke so don't fix it"), coupled with negativity ("we tried that once and it didn't work") and pressures to conform (the "not invented here" syndrome is a symptom of this). Above all there is often a fear of looking foolish by challenging the accepted or, even worse, trying something new and failing. As Tom Peters says (in *Thriving On Chaos*), the worst kind of organisation is the one that doesn't make mistakes, as mistakes come from taking

---

* Ansoff (1967: "Corporate Strategv" Penguin) suggests that innovative stimulus arises from environmental changes interacting with organisational objectives; as it reassesses its resources, operations and performance in the light of its market position and competitiveness, and the attractiveness and potential of its markets, the organisation must be able to generate new products and wavs of working if it is to survive.

risks, and long-term success is dependent on risk-taking. All mistakes are a chance to learn, and the successful organisation celebrates failure.

Innovation and the role of managers

It has been suggested several times that managers have a crucial role to play in enabling innovation to occur, by creating the right environment for innovation, both organisationally and culturally. Organisationally they must remember Chandler's words *(Strategy and Structure* MIT Press: 1962)

'Structure follows strategy"

That is, the structure of an organisation should fit the strategy being pursued, not the other way round. Innovative approaches may require structural change; to prevent innovation because it doesn't fit into the existing structure is to inhibit development. Flexibility in the organisation structures and responsiveness to new methods or technologies were identified by Bums and Stalker *('7he Management of Innovation'* Tavistock: 1968) as essential prerequisites of innovation in what they called the 'organic' organisation, in contrast to 'mechanistic' organisations.

Kantor has reinforced this by describing two organisational types with similar characteristics to Bums and Stalker's:

- *Integrative action* organisations, where problems are approached as wholes, attached to larger wholes, for which new connections can be sought, with low power structures.
- *Segmental organisations*, where self-contained units compartmentalise problems and solutions, with strong ownership and boundaries reinforced by high power structures.

A practical manifestation of the flexible structure operating in a segmental Organisation is one capable of using the 'Joint Development Activity' approach, where strategic and operational managers and staff engage in simultaneous innovative problem-solving, focusing on their different levels and linked by common consultants/facilitators to ensure synchronicity of process and outcomes.

Handy's classification of organisational structures is widely known and used; he, too, identifies the fact that certain types of structure are more likely to encourage an innovative approach to development.

Structure	Characteristics	Culture	Characteristics
Pyramid (or 'temple')	Rigid structure, written rules, high stability	Role	Accurately defined jobs, little individual freedom, people easy to switch in role tasks
Net	Temporary structure, easy to change, informal communications	Task (or mission)	Innovation orientated, flexible, technical expertise valued highly
Web	Centralised power, small head office staff, accountable out stations	Power for success/ failure	Charismatic leader, clear rewards/punishment
Cluster	Nebulous stricture	Person centred	Personalities flourish informality of norms (assisted by tight controls for effectiveness)

(Handy '*Understanding Organisations'* 1976 Penguin)

According to Handy, *structure* gives 'shape' to an organisation by defining the span of control, hierarchical levels, lines of communication and control, and the nature of sub-units, whilst *culture*

defines the climate or environment (the 'feel' of the organisation. There are four prime dimensions of culture: language, symbols, rules and relationships, Their relevance to the way the organisation works can be significant and needs to be understood if the organisation's ability to cope with innovation is to be assessed.

The Cultural Dimension

Culture can be defined bv reference to a number of dimensions,

Language

- *Technical jargon*. This can serve to distinguish membership of a group and to enable conversations to occur which have the effect of obscuring content and excluding non-members,
- *"In-group" references*. A more informal use of language which makes reference to events, people, etc. which are only known to group members.

Symbols

- *Functional symbols.* These are physical evidence of belonging to a group and exist for functional purposes (at least, that is their original or intended purpose).They help to define membership of a group and can become "iconic" whilst superficially retaining their functional role (eg the wearing of lab. coats or similar uniforms). The barrier between the two roles is often thin.
- *"Icons".* These are symbols which are wholly symbolic and which serve to stress membership of a group visibly. Sometimes they have the particular function of demonstrating power or seniority (eg the reservation of car park places for senior managers). It is noticeable how such icons will be defended quite strongly, often with attempts to show their functional purpose.

Rules

- *Group norms.* These are the rules which a group of people working together have established between themselves to regulate their behaviour. Although not codified or written down, they are very powerful and are enforced by personal sanctions such as ostracising non-conformers. Many people will swear such rules are formal, if only through “custom and practice”.
- *Formal.* These are the rules the Organisation makes for itself which regulate people's behaviour. They reflect the managers' model of behaviour, and therefore desired culture, but may produce unexpected results because of the interpretations and perceptions they generate.

Relationships

- *Hierarchy & Status.* This is the way in which an Organisation establishes the layers of management and thus the distance between the senior mangers and the operational staff. It is reflected **in** "them and us" comments and attitudes.
- *Roles and Structure.* The other dimension of a management structure is the way in which people are given roles and organised into formal groups, and the extent to which barriers occur between these groups. If hierarchy is about vertical communication, this is about horizontal communication.

Trying to encourage in an organisation in which language is very exclusive and in which symbols are important, where the norrns of the group demand conformity and the organisation is rule-bound, and where status or rank is a significant factor in behaviour and relationships, is one where innovation will be very difficult.

But culture is not only defined by the organisation, but by the wider culture of which **it** is a part

> "Ask a German manager to do something and he'll say *yes* and do it, a French manager will say *yes* and not do it; an Italian will say *no* but do it anyway; and a British manager will say *no* and bloody well mean it!" (American manager of a US multinational)

Most theories about organisations have been culturally specific, and have been particularly American in origin (except TQM from Japan); cultures shape responses to stimuli, so systems for stimulating innovation in organisations must be designed to take account of the prevailing culture if they are to be effective. However, whatever strategy is selected, it must be effective in developing new systems and roles to accommodate the evolving demands on all organisations, including colleges. As Francis Bacon also said:

"He that will not apply new remedies must expect new evils"