Adhocracy Drives Evolutionary Change in Higher Education Curriculum

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Abstract: This paper discusses characteristics of the university quality and program review processes’ in a large metropolitan university that supported incremental environmentally aligned curriculum change in an Information Communication Technology (ICT) postgraduate degree. A snapshot of professional domain demands for university graduates and processes supportive role, within the timeframe of an episode of change, will be described. Examination of Lewin (1948), Garvin (2000), Kotter (1995) and Jick’s (1991) change management model steps, Morgan’s (1998) open systems characteristics and Beshears’s (1995) participatory management styles provided a benchmarking framework for identification of characteristics within the processes that supported curriculum change. Success of the processes was attributed in part to strategic management of the review process which enabled the structuring of operational review activities to exhibit an Adhocracy management style.

Keywords: Adhocracy, Professional Bureaucracy, Curriculum, Change, Change Models, Open Systems, Higher Education Quality Processes, Higher Education Program Review Cycles

Introduction

THE COMPETITIVE NATURE of the higher education marketplace combined with a volatile professional domain dictates a need for systems in universities that enable continuous alignment of curriculum with industry change. This case study used characteristics of change models, open systems, participatory management and action research to generate descriptors of recommended stages, steps and activities for university processes. Interrogation of the literature relating to open systems, quality cycles, change models and the management of change situations provided a theoretical interpretive framework to underpin the examination of the University processes.

The Program Quality Management System (PQMS), Program Annual Review (PAR) and Professional Accreditation processes were investigated to identify whether they had been the source of curriculum change evidenced by submissions to the academic governance structure of the University. Once the change event was validated characteristics of management styles existing in the processes that supported change were identified.

New Information Systems (IS) areas of knowledge identified by the Australian Computer Society (ACS) were compared changes to curriculum changes in a Masters in Business Information Technology (MBIT). Examination of characteristics of the PQMS, operational level PAR and Professional Accreditation processes that facilitated ongoing change in IS curriculum described the complex intersection between external industry change and MBIT
improvement. Broadly based external information was synthesised with internal data by operational teams, to plan change.

The university PQMS required processes, activities, events and reports within many sub-systems, at both the strategic and operational levels. Annual review cycles were driven by the PQMS. Information flows and participation by role were included in the processes designed to enable effective subject and program evaluation and action plans. Operational team review processes were designed to effectively collect and utilise stakeholder information to plan and implement curriculum improvements. Program performance information was collected from stakeholders external to the system boundary and disseminated by the university planning and quality units, to support compliance driven program improvement processes. This information provided a mechanism for program teams to compare their performance, on a national scale, against external government benchmarks. Government, marketplace and Information Communications Technology (ICT) industry information flowed into the university in conjunction with student feedback which informed university performance indicators and was used to evaluate programs at a strategic and operational level. As well as providing external to internal information transfer the PQMS maintained internal information dissemination and collection channels.

Mechanisms to validate program changes and planned actions against university performance indicators in a cyclical manner underpin systemic ongoing change according to Morgan (1998). To promote industry driven change the university developed systems that supported external to internal information flows and action planning at the operational review level. This paper describes the results of an analysis of university functions and processes that supported continuous change of curriculum delivered at the organisational operational level.

Change Models and Open Systems to Underpin Information Flows

Lewin’s (1948) change model, Kotter’s (1996) Strategic Model for Transforming Organisations, Jick (1991b) Steps for Implementing Change and Garvin’s (2000) GE Change Model describe ‘what’ needs to happen to enable a successful change episode in an educational context. Schein (1995) and Healey et al (2000) also used Lewin’s (1948) model to underpin explanations of cyclical approaches to change phenomena and extended the model to describe managed learning. Lewin’s (1948) change model, action research and contemporary action research are compared in Figure 1.

The cyclical approach included identification of the initial idea, fact-finding, planning, taking the first action step, evaluating the step, amending the plan on the basis of the evaluation and then taking the second step. The inclusion of a feedback action loop in the Contemporary Action Research Model assisted in the creation and validation of ongoing development or building on existing positives. Sketetee (2004) recommended a tentative action research model that integrated planning, acting, observing and reflecting phases of inquiry. The application of change processes in context demonstrated a need to continuously revisit central issues in the sense that with every new cycle, the outcomes of the previous ones were used to inform new insights, claims and plans (Sketetee 1994, Ritchie 1995).

Connection between process cycles that build on incremental change aligned with Morgan’s (1998) open systems characteristic of systems evolution. The common theme in the range of cyclical models is that “… each one describes the research process as a systematic, self-reflective spiral of planning, acting, observing and reflecting” (Steketee, 2004, p.2).
Arvison (1998) built on Deming’s Plan-Do-Check-Act cycle (Deming, 1986 as cited by Fox and Frakes, 1997) that was developed to enable organisations to define, and improve their quality processes for core functions. In Arvison’s (1998) model “… strategic initiatives can and should be placed in a feedback loop, complete with measurements and planning linked in a Plan-Do-Check-Act (PDCA) cycle. To illustrate the relationship of business unit processes to strategic processes, we may construct two nested PDCA cycles.” (Arvison, 1998, p.2) Van den Acker (1999) emphasised the importance of iterative cycles whereby ‘successive approximation’ or ‘evolutionary prototyping’ of the ‘ideal’ enabled building in context. Morgan (1998) described how continuous alignment of internal business functions with the external environment underpinned evolutionary open systems.

Dick and Swepson (2006) have described the importance of cycles that are validated by multiple perspectives and sources of information to organisational improvement. The processes designed at the strategic and operational levels of organisations need to reflect the Arvison (1998) Plan-do-Check-Act cycle. The need for quality processes to be cyclical permeates the literature of systems, change, organisational development and quality management.
Participatory Management of the Change Process

The change models all included a discussion of ‘what’ needs to occur in a process to review and institutionalise change. The recommended steps that enabled reflective practice during implementation were a facet of desirable organisational management techniques and project management practice. Waddell et al (2000) and Morgan (1998) indicated the importance of meshing the change model activities with the corporate culture at an organisational level as fundamental to the success of change initiatives.

Underpinning action research and change models was a layer of process design dependent on human behaviour. The first stage of Lewin’s (1948) change model was ‘unfreezing’ or “the process of disconfirming a person’s former belief system. Motivation for change must be generated before change can occur” (Smith et al, 2004, p.7). During the ‘movement’ stage change agents were suggested to facilitate the connection “of concrete (emotional) and analytical detachment required to learn and develop” (Smith et al, 2004, p.7). The collection of feedback during all stages of the change process was considered crucial to continually adjust the process based on accurate information about the impact of the change.

Kotter (1996), Jick (1991b) and Garvin’s (2000) change models each included practices designed to build a positive culture around the episode of change. Employee reward systems to mobilise employee commitment, the creation of change leadership roles and alterations to organisational structures all contributed to the potential for a change initiative to be successful. This necessitated processes that provided an understanding of the interests of diverse stakeholders and the identification of key participants to obtain broadly based ownership. Egan and Fjermestad (2005) mapped the three models to create one merged list of recommended steps for enabling change. They recommended a combination of the processes for the implementation of change process that reduced the interference of resistance to a minimum.

The models recognise the importance of communication, processes that embed strategies for inclusiveness and the involvement of people representing different roles in the organisation to building coalitions of supporters to institutionalise change. Smith et al (2004), Schein (1995) and Lewin (1948) recognised the importance of open discussion between stakeholders, representing different management levels within an organisation, to learning. A broad range of people like “…astute decision makers, marketers, trusted innovators, agents of change, preachers of difficulties, master integrators, enterprise enablers, technology stewards and knowledge handlers …” were required to participate as part of successful ongoing change processes (Mento et al, 2002, p.57).

Bainbridge’s (2000) approach to management represented an extension of the brainstorm methodology, useful during the ‘unfreeze’ phase to ensure that participants of a change event take responsibility for further action based on collaborative decision-making. The participative process enabled the opportunity for “…individuals and groups to define and re-define roles in a collaborative manner in connection with the tasks facing the organisation as a whole (Morgan, 1998, p.49).

Work-structuring to Support the Change Process

Although not as dramatic as Bainbridge’s (2000) ‘Open Space’ work environments the organisation of groups around the core functions and associated tasks forms a compromise
that can exist within fairly traditional hierarchical structures. PAR cycles in this case enabled participation of operational staff in events that facilitated information flows across the organisational boundary and connections between the operational staff and strategic management. Work groups tied directly to function acted as organisational building blocks. Each work group was closely associated with the tasks that directly supported the core business. Individuals had responsibility for whole processes and the requisite connections to strategic management and the external environment. This provided participants with meaning in their work.

Wallace (2003) advocated strategic steering of complex change initiatives that required guidance. In terms of Quality cycles the creation of accountability supported by compliance process was possible within the plan-do-review cycle required by the organisation and completed for all transformations completed by work groups. Waddell et al (2000) also supported the creation of self-managed work teams or multi-disciplinary teams to complete complex tasks that may require acceptance of full responsibility curriculum development. Figure 2 describes the process required to create and maintain work groups designed around transformations. The process has the ability to harness ‘knowledge-for-action’.

![Figure 2: Work-structuring Principles Adapted from Mant (1997) p.26](image)

The key issue was how to design the interface between the system and its environment (input and output). Contextualisation required that the processes and systems that enabled efficient interfaces between internal sub-systems and their local and external environments were required. The performance monitoring provided information inputs to operational review process. The changes to programs were input to the university governance structure for
validation. Application of action research methodologies enabled the validation of information collected at the operational level.

Beshears’s (2005) recommended the use of the Adhocracy and Professional Bureaucracy management styles to enable functioning in environments experiencing change. The processes under investigation were therefore mapped against characteristics of management style drawn from the literature. As management styles and performance systems underpin the human interactions that connect the processes and organizational functions. Garvin’s (2000) GE Change Model recognised that the people completing the core functions of the operation were integral to any change to business systems and processes. Elements of Wallace (2003), Mant (1997), Bainbridge (2000) and Schein’s (1995) techno-structural work groups and practices that enabled participation of employees in changing environments were also to be identified in the processes.

Change irrespective of whether it was technology driven, strategic or initiated by operational level staff needed to align curriculum with the marketplace and industry. The individuals involved in planned change initiatives were “… contextually dependent, facilitated and constrained by aspects of the wider political and historical milieu …” (Wallace, 2003, p.22). Mento et al (2002) identified the sources of political conflict as diversity, interdependence and competition for scarce resources, acting as related variables within the system. In the current Higher Education environment competition in the marketplace, globalisation and the blurring of specialisation boundaries meant that resistance to change evidenced by the variables described by Mento et al (2002), was a given.

Methodology - Thematic Analysis of Business Process Matrices

An interpretive research paradigm was used to investigate university quality and program review processes’ capacity to support incremental environmentally aligned change. Content analysis and thematic analysis research methodologies were used to collect map and synthesise information emanating from the activities supporting the relationships between the functional areas and processes under investigation. A series of matrices were generated from the literature to compare to the processes under investigation. This provided a view of the characteristics of the processes that supported incremental aligned change drawn from the literature and contextualised.

Matrix 1 - Inputs and Outputs to University Processes - In the first part of the analysis the PQMS, PARand Professional Accreditation University and School-based processes were located in Waring’s (1996) Functional Systems Model Waring’s (1996) which locates the government, marketplace and the higher education sector as external to the university system.

Matrix 2 – Business Process Changes - The second matrix (Business process Changes) was necessary to examine the relationships between the processes and the external environment in terms of the information flows. The functional model allowed establishment of an organisational boundary, location of processes with respect to the functional areas of the University and information flows from external stakeholders to the strategic and operational internal functions. This provided evidence of an alignment of the processes with Morgan’s (1998) characteristics of open systems. Prior to examination of the actual informational content of the documentation sources and destinations of information flows were identified to augment the standard descriptions provided by Waring’s (1996) Formal Systems Model. Within the university the directional nature of information flow used as input and output.
between the quality processes and governance structures was important to the description of processes and to find directional gaps between the functional areas.

Matrix 3 - ICT Aligned Change - The third matrix (ICT Aligned change) summarised the MBIT program structure at the commencement and end of the episode of change which enabled a description of the change event to be compared in terms of alignment to recorded emerging IS discipline areas identified by the Australian Computer Society (ACS). This part of the analysis validated the change in curriculum resulting from processes under investigation.

Matrix 4 – Changes Summary of MBIT Curriculum and Process Changes - Changes to the MBIT curriculum evidenced by documentation submitted to the ADC were sequenced and aligned with each process, in the fourth matrix (Summary of Curriculum and Process Changes) format. Table 1: contextualises each of the processes under investigation in a timed sequence starting in 2003 and finishing in 2005.

<table>
<thead>
<tr>
<th>Time</th>
<th>Changed program design, undertaking &amp; outcomes</th>
<th>Participants</th>
<th>Project Initiation - Macro or Micro</th>
<th>Inter &amp; Contract</th>
<th>Plan &amp; Implement</th>
<th>Evaluate &amp; Institutionalise</th>
<th>Monitor</th>
<th>Change Driver</th>
<th>Change Driver</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAR</td>
<td>2003</td>
<td>Yes Program Team &amp; TLL School</td>
<td>Macro School</td>
<td>School</td>
<td>School</td>
<td>School Program Team</td>
<td>School Manage &amp; TLL</td>
<td>School Manage &amp; TLL</td>
<td>CEQ</td>
</tr>
<tr>
<td>PQMS</td>
<td>2004</td>
<td>N.A Program Team</td>
<td>Micro Uni</td>
<td>Quality School</td>
<td>School Quality</td>
<td>School Quality</td>
<td>School Faculty</td>
<td>School Quality</td>
<td>Micro Info</td>
</tr>
<tr>
<td>PAR</td>
<td>2004</td>
<td>Yes Students PAC Industry Program Team &amp; TLL</td>
<td>Micro TLL, Quality TLL</td>
<td>School Quality</td>
<td>School Quality</td>
<td>School TLL Quality</td>
<td>School TLL Quality</td>
<td>Program Team Students</td>
<td>TLL, TLL</td>
</tr>
<tr>
<td>PQMS</td>
<td>2005</td>
<td>N.A Program Team</td>
<td>Micro Uni</td>
<td>Quality School</td>
<td>School Quality</td>
<td>School Quality</td>
<td>School Faculty</td>
<td>School Quality</td>
<td>Micro Info</td>
</tr>
<tr>
<td>PAR</td>
<td>2005</td>
<td>Yes Students PAC Industry Program Team &amp; TLL</td>
<td>Micro Uni</td>
<td>Quality School</td>
<td>School Quality</td>
<td>School Quality</td>
<td>School TLL Quality</td>
<td>School TLL Quality</td>
<td>Program Team Students</td>
</tr>
</tbody>
</table>

Table 1: Summary of MBIT Curriculum and Process Changes

In order to investigate the association between the ongoing ‘change phenomenon’ the PQMS, PAR and Professional Accreditation were aligned with characteristics of:

- Waddell’s (2000) organisational development activities;
- Morgan (1998) and Mant et al ‘s(1997) open systems characteristics; and
Mapping of characteristics relating to event participation and location within the organisational structure enabled internal, external, strategic and tactical management and operational staff presence to be identified. Participation in conjunction with information flow data enabled validation of the processes capacity to support ‘bottom-up’ change initiatives using the academic development governance structure. Themes were identified from an examination of the series of matrices that compared university process and MBIT program changes with characteristics of ‘open systems’, a functional systems model, change literature and changes to ICT knowledge in the industry context. These are illustrated in Table 1.

Data was collected for a single Masters in one Business College which may not represent the characteristics of all business schools, or indeed all Information Communications Technology (ICT) programs. More importantly the structure of the curriculum, cultural and political environment, technical infrastructure formats and business processes might differ from other universities. However, key characteristics of governance structures, quality performance systems and program team review processes which support industry aligned incremental change are transferrable to other tertiary institutions.

**Discussion**

All of the processes under investigation included a ‘project initiation’, ‘enter and contract’, ‘plan and implement’ and ‘evaluate and institutionalise’ stage within the procedural cycle according to Table 1. At least a portion of the work completed during the ‘Plan and Implement’ stage of each of the cycles occurred at the operational level even when the ‘enter and contract’ stage had occurred at the strategic management level. Each implementation component of each process therefore fulfilled Lewin’s (1948) and Waddell et al (2000) change model steps for organisational development that described cyclical processes that enabled continuous change of practices and constant evaluation of the curriculum utilised by programs.

The PQMS process was a quality cycle that determined ‘fitness for purpose but did not directly design program developments (Van den Acker, 1999). Both the PQMS and the ACS described requirements and constraints of processes to be implemented at the operational level under tactical management direction to achieve accreditation and meet university quality benchmarks. Whilst reporting schedules, participation by role and interaction with all stakeholders in events were specified, by the PQMS and the ACS the order of activities and the ‘who’ of participation were not. Both processes operating in this manner exhibited the equifinality characteristic of open systems as described by Morgan (1998) and Beshear’s (2005) Adhocracy management style.

The PQMS system in place was designed as a step-by-step process that validated work at crucial points in the development and maintenance cycles by a variety of mechanisms, “so that feedback may be translated into modifications, adjustments, directional changes, redefinitions as necessary so as to bring some lasting benefit to the process itself ... (Cohen & Manion, 1995, p.192). ‘How’ work projects and practice was designed to enable environmental alignment was defined at the school level. This aligned with Morgan (1998) and Waddell et al (2000) descriptions of ‘open systems’ to support organisational development.

The PAR process designed work activities to achieve curriculum development outcomes that demonstrated industry alignment, displayed in Table 1, that detailed ICT aligned curriculum change. The ‘enter and contract’ stage of the PAR illustrated a negotiation between the strategic and operational organisational levels according to Table 1: *Business Process*
Changes. Within the ‘evaluate and institutionalise’ stage of the cycle the review team validated program change according to university requirements and school based performance, governance and resource planning requirements with all stakeholders. The ‘why’ that produces bottom-up innovation, as described by Mento et al (2002), was crucial at each stage of the review cycle. The processes under investigation exhibited development cycles and external to internal information flows and action planning that facilitated the building characteristic of Morgan’s (1998) systems evolution.

The PQMS managed as a Professional Bureaucracy enabled operational review cycles designed by tactical and operational management to operate as Adhocracies that supported incremental aligned change. Implementation of the self-managed review process required connection to the external environment and strategic management of the university by means of internal information flows and participation. Operational design, management and implementation of review process enabled the ‘what’, ‘why’ and ‘how’ of ongoing curriculum change to be determined and contextualised at the operational level to support bottom-up change.

The PAR and industry accreditation processes at the operational level exhibited characteristics of Morgan’s (1998) open systems supported by Beshears’s (2005) Adhocracy management style as review teams continuously interacted with the external environment to develop curriculum as described by the ‘participation’ category in Table 1. Processes that operate as Adhocracies define the ‘what’, why’ and ‘how’ of implementation which involves design of process, ordering of tasks and generation of contextualised action plans. The governance and performance monitoring systems and structures reflected the characteristics of Beshears’s (2005) Professional Bureaucracy management style. The university in this study exhibited hybrid management styles aligned with the functionality of the processes. The ‘what’, why’ and ‘how’ of implementation produced bottom-up change, as described by Mento et al (2002).

Table 1 indicated that the ‘plan and implement’ stage or design of the review process was a negotiated solution between the strategic level PQMS and school based teaching and learning representatives. The ‘how’ of implementation was determined at the operational level and the resultant work practice varied according to need which reflected the ‘equifinality’ characteristic of Morgan’s (1998) open systems and Beshears’s (2005) description of the Adhocracy management style. Inclusion of all stakeholders to evaluate the current situation and plan actions enabled participatory management of the program development and the ability for staff to form Mant (1997) style work groups to instil reflective practice (plan-do-review) cycles at the operational level of the organisation.

Beshears’s (2005) Adhocracy management style was recommended for innovative organisations to ensure continuous fit between the environment and curriculum development; or a characteristic of Morgan’s (1998) open systems. The PAR scheduled staff and industry interactions that determined actions that drove alterations in program structures to suit marketplace needs. This created Waddell et al (2000) processes for organisational development where the curriculum was incrementally improved based on constant evaluation. The Professional Accreditation and PAR were managed at a school level and exhibited the following characteristics of Beshears’s (2005) Adhocracy organisational type:

- Teams of professionals from the operating core;
- Techno-structure rely on informal “mutual adjustment” to coordinate efforts;
• Turbulent environment requires a structure ideal for quick changes;
• People are committed and motivated and managed in an organic way;
• Performance of complex tasks in turbulent environments; and
• Project teams formed to perform a task and then dissolved.

Adhocracy organisational characteristics were necessary to encourage innovation at the school level as demonstrated by the Professional Accreditation and PAR processes. Beshears’s (2005) recommended Adhocracy management styles for congruent organisations experiencing ongoing incremental change to enable ‘mutual adjustments’ to be made between the strategic management and operational management.

Table 1 did not include the PQMS as the documents indicated that the PQMS managed the ‘enter and contract’, ‘plan and implement’ and ‘evaluate and institutionalise’ stages of each process cycle, but did not impact on program change. The process was a management performance monitoring device aimed at supporting continuous alignment of programs with their internal and external stakeholder demands to ensure a quality curriculum. It elicited no industry aligned program changes.

Beshears’s (2005) described Professional Bureaucracy as a management style appropriate for project driven matrix organisations like universities that were challenged by changing environments. The organisational structure was relatively flat and a decentralised system of authority operated. As Professional Bureaucracy was best suited to processes at the strategic management level like the PQMS that were designed to provide stable cyclical processes geared to performance monitoring and quality management.

The university utilised a hybrid management style whereby structure was attached to the purpose of the process. The division between Professional Bureaucracy and Adhocracy related to the stability of a process cycle and the need for an open system at the operational level to engage with the external environment. The ‘enter and contract’ stage of the Program Annual Review illustrated a negotiation between the strategic and operational organisational levels. The PQMS defined the ‘what’ that related to the dissemination of external information to the operational review team and defined the constraints to the process that ensured an interaction that compared program performance and university performance indicators. The ‘how’ that related to process design that scheduled cyclical end points and participation by role and position was also defined at the strategic level.

The review team also designed a process that incorporated the ‘what’ relating to information that required collection from internal and external stakeholders and the ‘how’ the process could include events that would enable relevant participation, external to internal and multi-directional internal vertical and horizontal information flows. The process designed work activities to achieve curriculum development outcomes that demonstrated industry alignment. The allocation of tasks to design process and function (structure) also aligned with Beshears’s (2005) management styles.

Systems Evolution

Mant (1997) described the importance of the synthesis of operational level idea generation to innovation. Business processes support problem and opportunity identification at a program level and a means of mediated interaction between the operational and strategic organisational levels. Change has always occurred spontaneously in organisations due to the manner in
which humans solve problems and seek out opportunities or change problem situations into opportunities. “Work activities were influenced as much by the nature of human beings as by formal design, and we must pay close attention to this human side of the organisation” (Morgan, 1998, p37). The MBIT PAR reports provided a synthesis point for the collection of problem solutions and opportunity identification emanating from the program team. On the basis of this compliance reporting and review of stakeholder feedback action planning could build change on initiatives on ‘best practice’ and enabled Morgan’s (1998) systems evolution.

The PQMS, Professional Accreditation and PAR exhibited all of the characteristics of an ‘open system’ except ‘systems evolution’, as described by Morgan (1998). Longitudinal analysis of repetitions of procedural cycles would be required to identify the characteristics of implemented processes that support this characteristic. The PAR was the only process under investigation that elicited incremental change and was short enough for two cycles to occur during the episode of change in this study. This process showed signs of the capacity to enable evolutionary change as action plans were input to tactical and strategic school plans and documented in program reports input to the PQMS. However, documentation input to the quality and planning structures for ratification were not analysed as part of this study which would have evidence validation of iterative cycles.

Tactical management organised the order of operational tasks for local program review cycles. Horizontally there was a gap evident in the connection of instances of cycles to enable evolutionary rather than incremental static program development. Connections between occurrences of review cycles require the management of information flows and longitudinal storage.

**Iterative Cycles**

Program review cycles based on Mant (1997) style work groups designed to enable transformational change could be implemented at the operational level. This structuring of the work activity embeds the action research plan-do-review cycles and validates inputs and outputs within processes. Continuous improvement based on work groups completing cycles of operational engagement required central control of participation by role and multi-directional information flows between strategic and operational levels.

The commonality for all of the processes was whether they were designed to support strategic planning and objectives, or the improvement of program curriculum was the need to validate action and requirements at the start of the planning and implementation stages. Plan-do-Review at the requirements or start of each processes would enable iterative cyclical linked processes within the university. The plan-do-review of action research that demands information validation was necessary during the ‘unfreeze’, ‘movement’ and ‘refreeze’ phases of all university processes. A need to align information requirements represented by events and controlled by participation and purpose was required during each phase of each process.

Individuals use technological tools to augment their capacity to communicate vertically and horizontally across traditionally imposed hierarchical structural boundaries. As a result, informal communities of practice develop to support shared interest and research. These groups of knowledge workers have the potential to produce innovative, broadly based, cross-disciplinary examples of best practice and the systems in place must harness the outputs.
Organisations need to enable participative events that are organic and enable bottom-up communication.

The PQMS provided a process that had the potential to connect functions, processes and people within the university using the Professional Bureaucracy management style and Morgan’s (1998) equifinality characteristic. Program review teams were responsible for the design and implementation of the process as well as the external to internal and operational to strategic interactions support cycles of incremental change to curriculum. Change driven from the operations and short time cycle planning “… to allow people who are highly involved with the organisation to initiate changes in the required direction” (Morgan, 1998, p. 56). Bainbridge (2000) and Mant (1997) recommended communities of practice to support innovation. Plan-do-review cycles were requisite to all systems to provide validation of actions planned and undertaken.

Conclusion

The very nature of educational environments, are being impacted on by a culture that readily accepts technological innovation. University strategic and operational processes in place include external to internal information flows to generate analysis of market trends, the student body, government policy and university objectives. These are the means by which the internal performance data are transformed to obtain meaning by way of attachment to operation and organisational function, the business alignment component of program change.

Action research methodology input into the defined processes prior to the ‘enter and contract’ stage would assist in the creation of validated iterative cycles. This would add the plan-do-review cycle described by Mant (1997) prior to ‘enter and contract’. Waddell et al (2000) also recommended a diagnose stage after ‘enter and contract’ to support organisational development as this contains problem solving it would also benefit from the action research plan-do-review. This would add ‘why’ to the ‘enter and contract’ and ‘plan and implement’ stages of the operational level review cycle. It already exists in the ‘evaluate and institutionalise’ stage. The processes investigated also supported the Waddell et al (2000) cycle of collaborative research and reflective practice that used the results of action research to guide action and change, in an incremental, ongoing manner.

References


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For the last decade Joan has worked on University projects aimed at maintaining a leading position in the application of ICT in business and delivering state of the art courses and programs. In 2000 and 2007 Joan was awarded RMIT Teaching Quality awards for continuous improvement in subject resources and innovative use of technologies in education. She has designed and produced a number of multi-media applications and a text in the end-user
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