

Value, Kaizen and Knowledge Management: Developing a Knowledge Management Strategy for Southampton Solent University

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Abstract: The process of development of the strategic plan for Southampton Solent University offered a vehicle for the development of kaizen and knowledge management (KM) activities within the institution. The essential overlap between the methods offers clear benefits in the HE environment. In consideration of the aspects of KM and kaizen, various potential opportunities were identified as targets for improvement, and clarified by knowledge audit as to value and viability. The derived outcomes are listed along with some of the principal factors and perceived barriers in the practical implementation of the outcomes.

Knowledge audit applied here focused on the identification of where value arises within the business. Resource constraints and the practicalities of a people-centred system limit the permissible rate of innovation, so precise focus on the areas of business activity of most significance to the mission and client base is crucial. The fundamental question of whether such a strategy should be developed as a separate strand or embedded into existing strategies is discussed. In practice, Solent has chosen to embed, principally for reasons of maintenance of ownership and commitment.

Confidence in the process has been built through prior success with trialled activities around retention, where an activity-based pedagogic framework was adopted to address issues with an access course. Other areas of early intervention include the development and reengineering of recruitment and admissions processes, and the development of activities and pedagogy based on the virtual learning environment as exemplars of the importance of cyclical feedback in continuous improvement. The inherent complexity of processes running across the university as an organisation offers opportunities for benefits from the through-process approach implicit in kaizen. The business value of the institution is in the skills of its employees and its deployed intellectual property, and thus the importance of the enhancement of both tangible assets and intangible processes is critical to future success

Keywords: knowledge management, kaizen, knowledge audit, knowledge strategy, knowledge management in higher education, strategy development

1. Introduction

The essential overlap between total quality improvement and kaizen methods (Masaaki Imai 1986) and knowledge management, arising from measurement tools, process mapping, and business process development, are well understood (O'Neill-Cooper 2001). In the UK university context, formal adoption of lean management as a practice and kaizen as a doctrine is relatively recent. The processes enshrined within lean management and kaizen are, however, widely practiced by managers.

The benefits of the implementation of knowledge management in HE are those of any business: understanding the university and its activities, leveraging knowledge assets, management of increased speed of innovation, focus on student received value, dealing with changing rules and business picture, improved operation with strictly limited (and often shrinking) resource bases, avoidance of information loss because of high workforce mobility, and improved sustainability and succession planning in every aspect of the business. In developing a strategy to take this forward, the balance of activities and the selection of applied methods and tools needs careful cognisance of the nature of the particular institution.

The concept of identification of knowledge value in a business is a precursor to the effective leveraging of knowledge assets and the generation of competitive advantage. Relatively simple techniques can solicit clarity in the identification of knowledge assets. The ability to focus on high value activities offers the opportunity to apply principal component analysis to business improvement. As such, it will guide the early uses of kaizen and thereby generate motivationally significant early wins and high impact outcomes. Furthermore, as kaizen drives the organisation to do well what is necessary and to discontinue what is not, the alternative lens of knowledge value gives essential perspective in the highly complex and loosely associative HE environment.

The tools of kaizen dovetail well into the suite of activities making up knowledge management in higher education. The natural tendency is to tie these aspects together in deriving strategy. The knowledge intensive business is not necessarily well served by such an approach, although they co-exist without difficulty and deliver mutual support where properly applied. The difficulty is in the range of “useful” activities, and the universities’ reliance on resilience through diversity (an almost ubiquitous strategy and perhaps implicit in the “uni-varsity” derivation). Without precision in product, kaizen offers constraints to academic practice. Where precision is discernable, and it is a reasonable question as to the level of operating units within an university at which it is exhibited, lean practices have demonstrated merit.

In derivation of a strategy, these principles offer guidance as to the blend and loci of application of lean and KM methods for best advantage. The paper considers the range and scope of activities in lean, TQM and KM methods in the context of Southampton Solent University’s business model.

2. The baseline situation

Southampton Solent University is a successful, medium sized educational institution. Its most recent strategic plan is now finished, the key deliverable having been achieved during 2005 with the achievement of degree awarding powers and university title. The University has a number of long-standing and well-established strategic plan documents. Some of these are fully necessary to forward development; others have, perhaps, reached the end of their useful presence in the strategy mix. The core strategy set is supported by a number of underpinning strategy documents focused on particular aspects of the institution’s work. In form and style, these very much implement Andrews’ definition of corporate strategy: “Corporate strategy is the pattern of major objectives, purposes and goals and essential policies or plans for achieving those goals, stated in such a way as to define what business the company is in and the kind of company it is or is to be.” (Andrews 1971)

The Information and Communication Strategy is largely focused on the core IT offer, its use, and its development. There is no separate top-line business systems development strategy. Furthermore, there is little in any of the existing strategy mix that might be categorised as dealing with the culture of the organisation, other than as an implicit artefact. Three inevitable questions formed the backdrop to all the strategy discussions: where are we now; where do we want to be; and how do we get there? If analysed through Whittington’s strategic purpose/process framework (Whittington 2000), the university views its approach as deliberate and systemic. The degree to which this is actually true is questionable.

Core Strategy Set

- University Plan
- Teaching and Learning Strategy
- Information and Communication Strategy
- Advanced Scholarship and Professional Practice Strategy
- Partnership Strategy
- Internationalisation Strategy

In terms of quality improvement, targets are often stated as qualitative numerical goals: “reduce administration costs year on year”; or “improve retention by 5%”; as opposed to direct numerical or categorical strategy statements. (Schein 1993) argued that people will question their existing knowledge only under stress and when they have become uncomfortable with their current understanding. The recent spate of government studies of UK HE, particularly the recent Leitch review of skills (Leitch 2006) with its focus on employer engagement, have placed considerations of mission, purpose, and alignment into the system which are not answered in previous strategic thinking.

As with every university, the biggest asset is the skills of Southampton Solent’s staff. These are measurable in tangible terms of obtained qualifications, received training, and recorded experience. Other derived tangible assets include the activities and materials prepared for each unit and course, the timetables and course structures leading to degrees and other qualifications, and the use of staff time. The staff relationships, formal management and communications processes of the university, its faculties and services, complete the picture.

In intangible terms, these staff assets include the informal communications across the organisation, its performance culture, the attitudes and willingness of staff to deal with students and their problems, the embedded knowledge of “how the university works” (which is typically at significant variance to the recorded,

official image in most organisations), and the network of professional contacts both internal and external to the organisation. The real crux is the understanding of “what works”: in student education and learning, in delivering all kinds of work using the university’s systems, and in managing our external relationships with funders, government, employers, and partner colleges. From this consideration came the first practical objective: the capture, proliferation and enhancement of good practice. This is the minimum outcome from the strategic implementation of knowledge management practices, but by no means the least in terms of anticipated impact. It is also the easiest to achieve partially, although substantially more difficult to deliver on fully.

The University culture is fairly typical – generally management processes are loose, very much based on the McGregor “Theory Y” view of people’s approach to work, and successful initiatives are often instigated by individual enthusiasm as well as strategic direction. The university is reasonably efficient in its use of resources, a habit of mind driven by the long-term increase in student numbers with no concomitant increase in funding levels. Systematic development customarily takes place at the point of change, where the introduction of a new process or IT investment drives the need for evaluation and investigation of existing processes with a view to optimising the effectiveness of the investment. There is a background level of continuous improvement alongside this, and individual managers with responsibility for processes undoubtedly maintain a level of performance culture. However, it has been neither systematic nor ubiquitous.

In strategy terms, the opportunity to build performance culture through total quality improvement and knowledge management techniques offers radical benefits additional to the evident basic requirement to revitalise the overall plan.

3. The opportunity

The job of knowledge management is to optimise the effective use of both the assets (tangible and intangible) and processes of the business; to capture both such that sustainability is achieved and succession is simplified. Ultimately its objective is better employment of the value drivers for the university, its clients and partners. This leads to improved employment in every sense for the staff: more rewarding, more successful, better recognised, and more purposeful. In order to deliver this, understanding of where value lies is essential.

Kaizen is continuous improvement. For Solent, as with many universities, it can provide a viable vehicle for achieving the objective of doing what needs to be done superlatively well, by iterative analysis, change and evaluation. The UK higher education (HE) environment is conditioned by the wider economy, and there remains a strong likelihood of future Treasury-driven limitation on growth in investment. Precision in targeting and efficiency in delivery will determine the ability to realise its advertised services within the available resource envelope.

Created through a detailed review of the institution, the vision derived from this is expressed in a series of strategic aims. Those with broad, general applicability are listed below:

Aims

1. To leverage the value inherent in the business’s processes and people, and build an effective knowledge base capable of providing answers the problems tomorrow will set.
2. To strengthen Southampton Solent University through “knowing what we know”, by driving the value chain.
3. To manage the corporate culture and develop the formal and informal communication processes to improve institutional performance.
4. To facilitate an exponential increase in the application of evidence-based leadership and knowledge-based practice.
5. To achieve the highest performance in terms of business process effectiveness and efficiency, both in managing the business and in student learning
6. To bind our students into the knowledge web as full partners, in learning, advanced scholarship/research, and employer engagement

The required activities to deliver these are evident. In practical terms, the base techniques are the sequential identification of the various forms of value nexus within the organisation, process and value chain mapping, business process enhancement, improved effectiveness of management information generation and use, and the adoption of lean methods for improvement. In cultural terms, the need is for authentic leadership

from academic and other managers, inculcation of the value set that prizes personal contribution and treats time as an asset jealously to be guarded and effectively to be spent, and a real acceptance of the continuous change, quality driven agenda. Some of these are evolutionary, others transformational.

Educational knowledge audit (see 3.1 below) is one vehicle for capturing perceived knowledge value by analysis of the outcomes of iterative questioning across the hierarchy of the organisation. The ability to locate value (the nature of which is defined in the question set) gives an understanding of the asset base, from which it is possible to define how best to develop its use and encourage its growth, and promote dissemination where appropriate.

3.1 The knowledge audit question set

The knowledge audit poses to the university seven questions, the same set to a sample of each tier in the organisation from Vice Chancellor to junior academic (or, if the analysts have real courage, to receptionist):

1. Where does the university's main profit come from?
2. Where does the university's main turnover come from?
3. What are the distinctive aspects of your product/service/operations base?
4. How do those distinctive aspects arise from within the university?
5. What aspects of the products/services are protected/protectable in IP/copyright/brand terms, or are just difficult to do without the university's levels of experience/skills?
6. Who or what within the university are the key assets with respect to 3 and 4 above?
7. What specialist knowledge, equipment, assets and skills does the organisation possess that it actually controls that could be leveraged for external profit?

The answers enable the identification of those elements of the business value offering which are knowledge sourced.

In the basic interpretation (looking at the *what* rather than the *how* of the respondents' answers:

If managers disagree as to the answers to the questions, there is the potential for growth within your current practices;

If the same responses keep coming back, then the answers to questions 5, 6, and 7 give the necessary insight as to how to increase the returned value on investment;

If the main costs don't relate to the answers to questions 3 and 4, the university is not leveraging its investment to its best advantage;

If the principal growth doesn't relate to the answers to 3, 4, and 5, the university is likely to face increasing competition for market share.

3.2 What do we seek to achieve?

This list is very much the basics of knowledge management practice, with the embedded kaizen goals of doing less, but doing it superlatively well. Missing from the list is a real desire to reduce expenditure on current administration costs by 10% per year throughout the planning period (note that this is very different from reducing administration costs as a whole by 10% per year).

Table 1: Outcomes

	Definition of Outcomes
1	Capture, proliferation and enhancement of good practice
2	Knowledge is the product. So productise knowledge, and use it to improve performance or sell it to generate income.
3	Elimination of unnecessary work; masterful delivery of essential activities
4	Risk reduction in management decisions. Leadership through knowledge and skills applied to evidence.
5	Designing and embracing Solent culture to deliver Solent Life (the local vernacular for the rounded student experience)
6	A knowledgeable staff able to apply their skills to support the institution's values and goals.
7	Staff and students actively partnered in the learning process.
8	Southampton Solent University as the best for employability, the partner of choice for employee training, and the centre of dissemination of modern business practice.
9	Sustainable excellence in the student experience.

These colour the design of every facet of the institutional plan, from the obvious information and communications work through to consideration of the student experience. The latter is a good example of where process consideration has impact, which has led to the simplified conceptual approach illustrated through the mind map of the student experience of figure 1 below. Identification of the necessary features gives a usable measurement tool for the degree to which the delivery mechanisms are successful for managers and a simple visual explanation of the process for staff.

3.3 Reasons for confidence in the approach: an example of previous success

The kaizen principles of teamwork and elimination of waste (muda) very much underpinned the university's development of a revised approach to the delivery of the foundation year Technology programme. Targeted at students with qualifications bases beneath that required for admission to honours degree programmes as an access programme, the course exhibited a high drop out rate nearing fifty percent. This is by no means uncommon in widening participation courses recruiting non-standard student cohorts.

The course team undertook to improve the situation. The adoption of an activity-based pedagogical approach, with development of early engagement through project work and early deliverables to permit appropriate engagement monitoring, gave the necessary insight into the students' commitment and values that permitted effective early intervention (Robinson 2006). Where problems were identified, a team-based approach, combining precision academic support from the course tutors with specific skills interventions and personal problem solving from Student Support Network staff, offered the high impact support needed by the students. Significant elimination of waste was realised, both in the form of often inexpert pastoral care from academics serving as personal tutors and in effort deployed on students who later withdraw. After the initial impact of the pedagogical change, the cyclical small improvements have continued to bring real success. Effective team reflection on each year's performance, with ongoing changes to the shape of the support package and incremental development of the activity set, has continued.

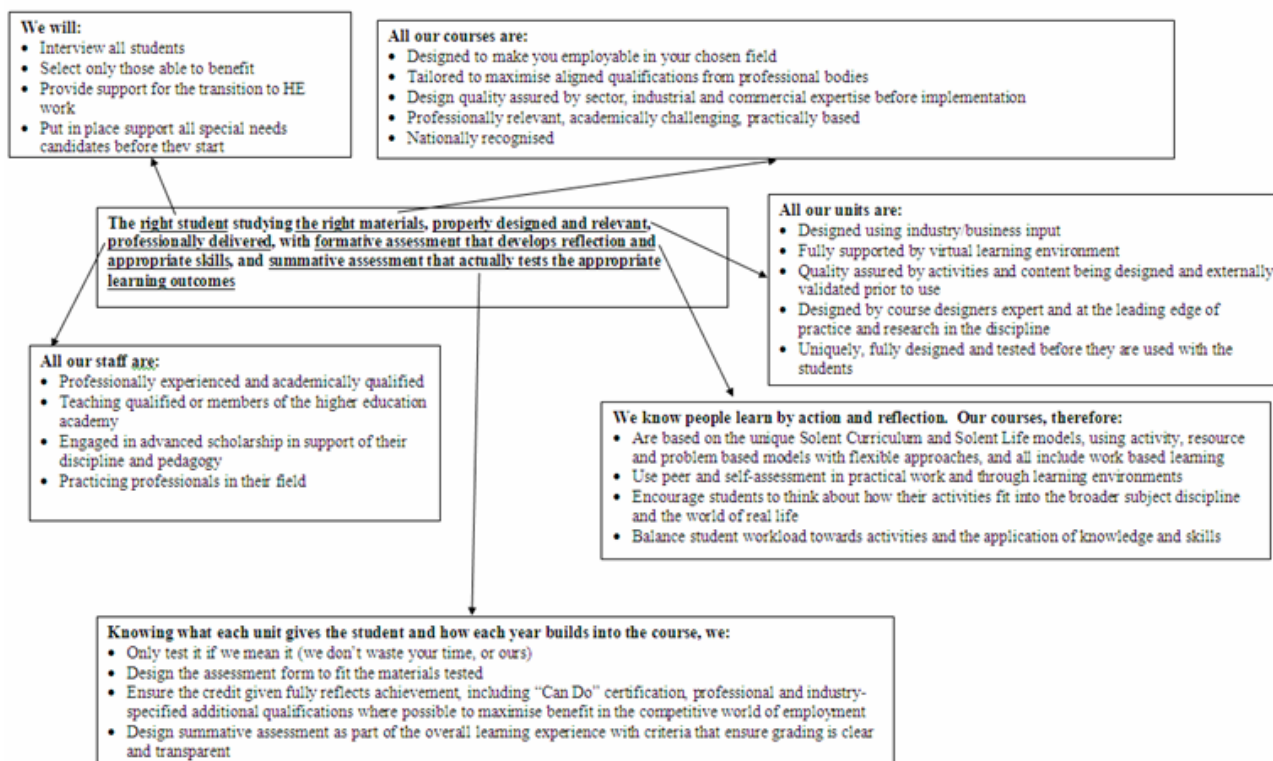


Figure 1: Mind map of student learning experience

Ultimately, the change programme beneficiaries have been the students. Retention rates are now in excess of seventy five percent.

4. The aspects of KM and kaizen in the strategy development process

4.1 Knowledge capture

"Knowing what we know" seems an odd ambition for a university. It is the greatest aspiration and most valuable potential asset of any corporation. By recording tangible knowledge and processes, and designing support mechanisms for intangible processes whilst attempting their capture, the university will form a baseline knowledge map of the organisation and, most importantly, its people. Identification of embedded knowledge assets, then design of systems and products to utilise them, will multiply and diversify the income streams of the university. Proliferation of good practice and leveraging of knowledge offers a practical route to high performance culture.

Target outcome 1: Capture, proliferation and enhancement of good practice

Target outcome 2: Knowledge is the product. So productise knowledge, and use it to improve performance or sell it to generate income.

4.2 Business processes

The application of modern analytical practices and quality methods will be used to provide opportunities to enhance performance. Value stream mapping, lean methods and standard quality management procedures, widely used in other sectors, have much to offer in terms of the forward shape of the education business.

Existing resources will be used formally to map the full range of university processes, and apply business optimisation techniques to their improvement.

Target outcome 3: Elimination of unnecessary work; masterful delivery of essential activities

4.3 Evidence-based leadership and knowledge-based practice

Excellent information for management is the essential basis for good judgement. Without it, one might claim at best to have "insight", or to be "lucky". Whilst in conditions of uncertainty complete knowledge is always unachievable, risk is minimised where the available evidential base is at its most complete and accurate. The

supporting vector for this is information collection, achieved by information systems design for effectiveness, and the basic value set of intolerance of inaccuracy. Knowledge management provides exact tools for this design.

The business of managing teaching performance is an area of international interest. The establishment and use of meaningful key performance indicators and reinforcement of reflection upon practice can have genuine impact on the student experience (Leadership Foundation, 2008).

Target outcome 4: Risk reduction in management decisions. Leadership through knowledge and skills applied to evidence.

4.4 Corporate culture and performance culture

Building further the basic culture of personal responsibility into the academic sphere is the essential goal in staff relationships. Specific embellishments appropriate to the mission - collegiality, consultation, respect for the values and others, tolerance of different opinions, decision making with a solid evidential basis, valuing diversity – will be promoted actively and developed throughout the proposed actions. The analytical tools and cultural methods required to do this form a basis of tried and established practice which will be adopted and embedded.

Performance culture starts with the simple metrics of implementation and evaluation: we say what we do, do what we say, and always follow up on work we require of others (or is required of us). The “authentic leadership” approach (George 2003), with appraisal of effectiveness and the creation of the can-do culture and the learning organisation, in which risk is evaluated and accepted, and occasional failure is taken as part of corporate learning, is the intended operational norm.

Target outcome 5: The designing and embracing of Solent culture to deliver Solent Life

4.5 Communications processes

The informal communications structures of the university are partially effective at present, largely because of a relative lack of opportunities for colleagues to meet and get to know one another across the work silos of schools and faculties. Designing in opportunities for constructive dialogue and familiarisation is a short term goal. The physical aspects of a city centre campus, and particularly the mediocre socialisation enforced by modern civic travel, will make this more difficult to engender.

Formal communications design will lay out how the organisation communicates with its workforce and vice versa, with the absolute commitment that staff know what is expected of them in their role, know where the university is going, and understand how they can play a part in the achievement of the institution’s goals. Equally, formal design of communications with the student population and dedicated attention to its delivery is essential. Poor training of representatives and the lack of closed loop dialogue plays a major part in the perception of many universities’ performance, reflected in aspects of the National Student Survey.

Target outcome 6: A knowledgeable staff able to apply their skills to support the institution’s values and goals

Target outcome 7: Staff and students actively partnered in the learning process

4.6 Knowledge business

The present student population will move into a very different employment situation to that experienced by cohorts a decade ago. International mobility means that employers have alternatives for sourcing the workforce. Southampton Solent University is committed to providing its students with a serious competitive advantage in employability terms. Reducing adverse hygiene factors by exposing them more to expectations and existing practice, as detailed in current employability thinking, is insufficient. The mission must be to equip them with the tools to “create the sunrise”. This means seeking out, using and providing best practice in new and disruptive technology as an everyday part of its courses. The added value so engendered is a necessary component for preferential supplier status into the business base.

At the same time, such skills will offer the ideal opportunity to build the partnership base – shared benefit and mutual need. Phase four media, and the businesses of entertaining education and informative entertainment, are the natural ground for academic staff, and these offer the opportunity to enhance reputational impact. The development of flexible learning techniques and skills places the institution at the top of the engagement ladder. Social networking, virtuality, sensory scenescapes, serious games, which will be the lifeblood of

market communications and design development for universities and their business clients, are housed in the same intellectual space. Here is the opportunity to position the institution to lead a decade of transition and success. This also offers the prospect of removing the perceived barriers between the university and its client base, implementing fully the knowledge exchange and seamless partnership which is the student – university – employer engagement ideal.

Target outcome 8: Southampton Solent University as the best centre for student employability, the partner of choice for employee training, and the centre of dissemination of modern business practice.

4.7 Staff, continuity and succession

The loss of staff at crucial times can have significant adverse effect. When people leave their experiences and knowledge will go with them. In some disciplines 60% and more of university academic staff are within five years of being able to take retirement benefits.

The time taken to redress the skills balance and embed the new incumbent into the rituals and rules of any post is lost productivity. The availability of a real map of what is actually going on in a role, its significance, partners, contacts, sources of information and the uses of its outputs, will reduce the costs of pick up, facilitate early embedding and reduce the lag to productivity recovery.

The university needs employees who not only bring knowledge to the job, but also share what they know with others; employees who continue the process of knowledge, growth and learning throughout their careers; indeed, that we do to ourselves what we preach to others. This at the very least indicates a need to recognise employees for what they know, and in particular for what they do with that knowledge rather than just on job title and longevity.

Target outcome 9: Sustainable excellence in the student experience.

5. Embedding or differentiation?

The question remains as to whether a differentiated knowledge management strategy is the correct implementation, as opposed to embedding the various elements as permeation throughout the established plan set. Clarity of focus and the establishment of an “organisational champion” to drive forward the implementation are easier with a separate strategy. Yet the separation allows a gap, potentially makes this issue “somebody else’s problem”. Embedding dissipates the message and, unless focus is maintained, potentially the impact. If the cultural acceptance is sufficiently strong, either will succeed.

Following extensive discussion, the university has chosen to implement an embedded model, with the primary elements contained within the Information and Communications Strategy and others distributed according to primary responsibility for delivery (e.g. succession planning within the Human Resources Strategy). Single sheet monitoring, gathering an appropriate set of associated key performance indicators (KPIs) to review the overall progress and implementation success, has been developed. The principal reasoning was based on the need for wide acceptance of responsibility for change and the desire to maintain the existing strong ownership of process aspects within the department-led operational model. A multifunctional team approach has been adopted to manage identified programmes of development which run across the organisation. This has been successfully trialled with work on the revision of the university’s approach to learning spaces in the light of changing pedagogy, technology underpinning, and student acceptance of social networking and Web 2.0 communications approaches.

6. Key aspects of kaizen

There are natural strengths in the university system in approaching continuous improvement. In particular, the critical processes are well developed, often turned as a lens on staff work as academics but less frequently applied to the systems of organisation. Reflection is an art both taught and practiced. The skills base for the required analysis is established in any modern business school, and practical experience of using kaizen methods is commonplace amongst engineering and technology staff. The need to view the university as a business is sometimes shrouded by sentiment and the mythology of the academy, but we do exist to deliver a public good as well as to turn a profit. The ability to apply kaizen techniques successfully to this somewhat unique type of business depends upon development of its existing performance culture rather than substitution of a pure production mentality. However, where necessary such development may be radical.

The key requirements are:

- Precision of purpose:
The identification of the smaller set of activities essential to the delivery of the university mission is a precursor to improvement actions. Given the range of interests - administrative, academic, technical, managerial, learner - distillation of the array of perspectives into a consistent understanding which all will use is an essential initiation stage.
- Application of process thinking, not simply focused on results and outcomes:
To all practical purposes, this requires bringing the same level of discrimination and analysis applied to discipline pedagogy to the other work of the university.
- Application of systemic thinking about the process as a whole:
A range of tools applied here will offer benefits. Process mapping, optimisation and business process reengineering, the systematic learning process, the cyclical approaches of DMAIC and DMADV (Deming 2000): the development of the necessary skills in managers and support through practical implementation are essential.
- Development of a learning culture which permits the effective re-evaluation and change of current processes
A preponderance of iconic activities, and “things we’ve always done this way” burdens university thinking. There are barriers to the development of a learning organisation culture in institutions often featuring long-serving academics, where the dual loyalty to discipline and employer is a significant factor. That such staff are themselves learning facilitators, and see such activities as things they deliver rather than practice, limits the quality of institutional learning. As with any cultural barriers, expectation, sustained practice, visible benefits, and strong, consistent leadership are the keys to progress.
- Suitability of span of application

The application of kaizen practices necessarily spans business units, following the path of processes which commonly extend between central and faculty-based administrative functions. This will require staff managed separately and with different primary loyalties to work together on activity elimination and efficiency improvement processes.

6.1 Identified areas for application

Although the strategy work is ongoing, there are immediate areas for the application of kaizen. The student recruitment and admissions process is multifaceted and complex, has arisen through evolutionary processes rather than strictured design, crosses departmental boundaries and is subject to external pressures of government change. Its crucial importance to the success of the university, the time-critical aspects of student communication and the need to establish a relationship with potential students require a mix of information provision, marketing and practical administration functions in which simplification provides real benefits. The establishment of a single point of authority managing the relationship from first contact through to admissions processing might be considered an ideal; limiting the number of processes and individuals concerned will certainly help to reduce the likelihood of miscommunication.

The growing presence of virtual learning environment-based materials and activities, because they are fully documented and substantial in a way that the stream-of-consciousness lecture is not, allows the application of proper reflective incremental development. This is particularly the case where the evidentiary base combines rich student feedback and objective evaluation of formative and summative assessment outcomes as inputs to the lecturer’s forward development of the unit. This is certainly one argument for driving forward the development of well-founded learning materials. Personnel management, academic quality and registry functions, finance, purchasing, and estates management are equally well positioned for kaizen application, particularly given the innate complexity of their interactions.

In reality, continuous improvement is pervasive and naturally extensive once adopted as an approach. Staff development is needed to embed the skills, and early successes reinforce the message of effectiveness and positive transformation.

7. Conclusion

In strategy terms, the joint development of KM and kaizen practices, embedded into the redevelopment of an existing strategy set and chosen to facilitate the development of knowledge value, has much to recommend it in the higher education sector. The foreseeable situational factors are appropriate to drive the need for change, and the key aspects of task reduction by doing only those things that need to be done but doing them consummately well and managing knowledge to support the organisational goals are opportune. The

problems of change management and the need to modify significantly institutional culture are evident. Consideration of the associated methods has already given clarity to elements of the strategy set. Process improvement, based on redefined priorities and using total quality management principles, offers the opportunity of a step change in performance within the available resource envelope.

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