

Understanding and Managing the Manage-processes

Umit S Bititci and Neil McCallum
Centre for Strategic Manufacturing
University of Strathclyde, Glasgow UK

Corresponding Author:

Professor Umit S Bititci
Centre for Strategic Manufacturing, DMEM
University of Strathclyde
James Weir Building
75 Montrose Street
Glasgow G1 1XJ

Tel: 0141 548 2015

Fax: 0141 552 0557

e-mail: u.s.bititci@strath.ac.uk

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Abstract

The overall aim of the ongoing research programme is to answer the question “what makes the successful companies different?”

To achieve this objective, the research discussed in this paper takes a business-process view of the world. Its point of departure is that the operate-processes create competitive advantage. But the manage-processes ensure that competitive advantage is sustained. Through a combination of inductive and deductive research, the paper: Creates an initial understanding of the differences between manage and operate-processes; Demonstrates that manage-processes may be identified, with clear boundaries and scope; Makes a first attempt at identifying five manage-processes; and it associates some critical competencies, such as agility, organisational learning and knowledge management with these five processes.

In conclusion, as well as demonstrating the feasibility of codifying these manage-processes and developing a competency/maturity model of these processes, the paper raises a number of research questions that requires to be answered if we are to understand and manage these manage-processes.

Introduction

Looking back over the past 10 or 15 years, where pace of technological, social, political and economical change has been high, we can typify companies into:

- Successful companies who have managed to sustain their competitive advantage and grow.
- Survivors, who have just managed to survive, albeit as a smaller organisation.
- Failures, who no longer exist.

The overall aim of the ongoing research programme is to answer the question “what makes the successful companies different?” and go on to develop a practical self-assessment tool that could be used to assess the capabilities of the manage-processes.

Since the acceptance of the inadequacies of the financial performance measures alone to manage the performance of modern enterprises, there has been a lot of

research and development into performance measurement by academic researchers, industrialists and consultants. During the 90s there were many books, journals, conferences, workshops and seminars dedicated to this subject.

This concentrated effort has resulted in the development of a variety of performance measurement frameworks, models, methodologies and processes addressing the complete lifecycle of a performance measurement system, from design, implementation and operation to its review and redesign.

A common message emerging from the works of various researchers is that performance measurement should be less functionally focused and more focused on the value creation processes that create competitive advantage (Figure 1), e.g. Fulfil Order, Develop Product, Generate Demand, Support Product (Kaplan and Norton, 1992, Bititci et al, 1998, Childe et al 1994). This view is also strongly supported by a range of researchers from the strategic and operations management fields.

The point of departure of the research presented in this paper is that; *although the operate-processes create value, it is the manage-processes that sustain competitive advantage by recognising and responding to changes in their internal and external environment either through maintaining and developing a winning formula or through identifying and changing to a winning formula.* Whilst there has been significant research done to document the operate-processes (eg. Childe et al 1994) and to develop performance measures for these processes (e.g. Neely 1999, Bititci 1998, Bourne et al 2000 etc.) little or no work has been done to identify the manage-processes or indeed to develop performance measures for these processes.

This paper outlines results of the initial feasibility study that has been conducted to test the theoretical and methodological feasibility of modelling and measuring the manage-processes.

Methodology

The objectives of the feasibility study were to establish that:

- Manage-processes that create sustainable competitive advantage can be defined and documented.
- Factors that make these processes capable can be defined.

- A model that assesses the performance and describes the maturity levels of the manage-processes can be developed as a practical tool for industry to use.

In order to achieve these objectives, a combination of deductive and inductive research methodologies were adopted. Deductive research, through extensive study of the literature (in strategic management, operations management, organisational development and learning, and knowledge management) led to the development of an initial model for manage-processes. Inductive research, based on grounded theory (Glaser & Strauss, 1967), examined the practices of an organisation to verify and enrich the content of the deductive model.

The remainder of the paper provides a background to the research, outlines the research proposition and goes on to describe the research in greater detail.

Background and Context

There are now several frameworks for performance measurement and benchmarking. However, none of these frameworks provide an approach for measuring businesses' ability to sustain competitive advantage.

The performance measurement frameworks, such as Balanced Scorecard (Kaplan & Norton, 1992), SMART Pyramid (Cross & Lynch, 1988/89), Results/Determinants Matrix (Fitzgerald et al, 1991), Performance Prism (Neely & Adams, 2001), IPMS Reference Model (Bititci et al, 1998) and IDPMS (Ghalayini et al, 1997), are designed to facilitate the development and deployment of appropriate performance measures through the operations of the organisation. The most commonly used and well-known framework - the balanced scorecard - achieves this by deploying strategic objectives by means of a business model (Eccles & Pyburn, 1992) or strategy map (Kaplan & Norton, 1996, 2000). This approach focuses on the alignment of operate and support processes for achieving the business objectives, in itself an important short-term driver of success (Collins & Porras, 1995), but not on its own a source of long-term sustained competitive advantage.

The Benchmarking Frameworks (such as PIMS, Probe, Microscope, EFQM) provide methods for businesses to measure themselves against their competition or best (or better) practices. But they do not facilitate the development of performance measures to develop and sustain competitive advantage.

The nearest thing to the requirement stated here is the European Business Excellence Model (EFQM, 2000), which highlights the key enablers at a high level and requires companies to identify and manage their key processes. It places emphasis on managing business processes. Although it indicates the need for manage-processes (Leadership, Policies and Strategy, Resources and Partnerships), it does not provide explicit guidance on:

- What these manage-processes are
- Their impact on sustainable competitive advantage
- What makes them capable
- How to measure/assess the capabilities of these processes

Indeed, the new EFQM model recognises the need for continuous review, monitoring and adjustment of business direction, strategy, performance (i.e. the innovation and learning feedback loop), but this still does not provide explicit answers to these questions.

The Research Proposition

The proposition presented in this paper is based upon Business Process Architecture, illustrated in Figure 1 (Bititci and Turner 1999). According to this architecture, and Porter's value chain (Porter, 1985), value is created through operate-processes, which are supported by support-processes and managed by manage-processes. Although the operate-processes generate value with the support of the support-processes, it is the capability and competence of the manage-processes that determine how well that value is sustained. The manage-processes provide direction, manage performance and manage-change in the operate and support-processes, creating long-term sustainability.

Sustainable competitive advantage can only be achieved through:

- Developing and maintaining a winning business formula, and/or through
- Changing to a new winning formula when appropriate.

The existing performance measurement frameworks focus on developing alignment and, although there are published processes for the performance measurement system design (Bitton, 1990; Kaplan & Norton, 1993, 1996; Neely et al, 1996, 2000), less attention has been paid to using measures to develop and challenge strategy (Neely, 1999; Bourne et al, 2000).

The gap in knowledge is that:

- Although the manage-processes create sustainability, we do not know what these manage-processes are.
- Measures and indicators for assessing the capability and competence of these manage-processes do not exist.

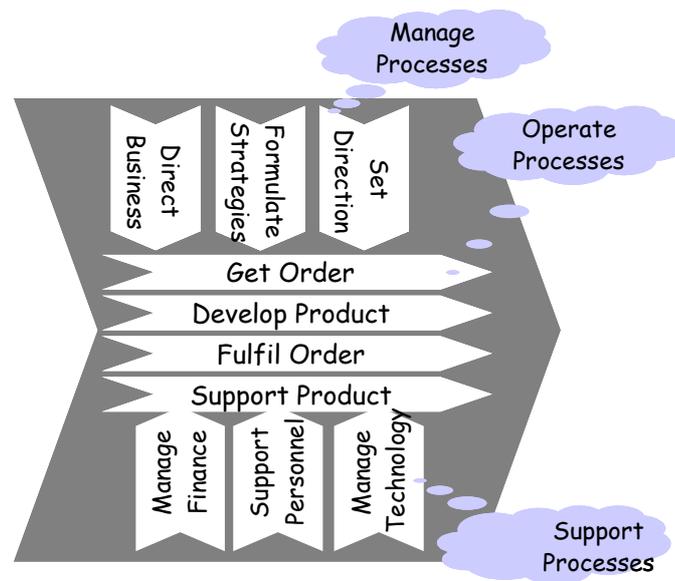


Figure 1. Business Process Architecture

Deductive Research

Characteristics and Competencies of the Manage-Processes

Having identified the need for focusing on the manage-processes, the objective of this section is to elaborate the key differences between manage and operate-processes, as well as to develop an understanding of the collective characteristics and competencies of manage-processes.

From our initial reading it would appear that most approaches to strategy formulation and performance measurement are based on cybernetic systems theory (Stacy, 2000). This assumes the environment in which a firm operates is predictable and knowable. Plus, processes for setting strategy are appropriate for this type of environment. Typically, the strategies formulated and pursued are examples based on a strategic choice, such as that described by Porter (1985) through his competitive forces model.

Characteristics of organisations described by cybernetics are (Stacy, 2000):

- Organisations are goal-seeking, self-regulating systems adapting to given environments through negative feedback. i.e. through the elimination of differences.
- The organisation's management system internally represents it's environment, by setting critical success factors, and then responds to that representation.
- The system responds to differences between externally imposed goals and it's actual behaviour.
- Crucially this system's operation depends on its ability to predict outcomes and time lags.

Strategy means a plan, that is a set of goals, the actions required to achieve the goals and forecasts of the consequences of those actions. The plan, therefore, plays the role of the externally set point of reference, describing the organisational inputs, processes, and outputs in terms of the objectives and performance measures required for the system's operation. Managers have to identify the future environment in which they wish to achieve their aims. So the competencies of the manage-processes are long-term in that they must ascertain the future and know in advance the required performance and distinctive competencies of the operate-processes.

How does such an approach manage change? According to Stacy (2000), change takes place in small incremental steps as the organisation converges to the future state chosen by strategists. However, managers experience difficulty in times of fundamental change. The organisation then experiences uncertainty and survives only if its managers make appropriate choices. The choices prescribed often have to do with the installation of structures and procedures that sustain control, so making the organisation a more effective system.

In short, the operate-processes create value through the operation of a cybernetic system that removes variances through negative feedback. This is within a predictable environment represented by fixed targets.

However, the manage-processes operate in a different environment that is both complex and uncertain. In order to sustain competitive advantage these manage-processes need to be 'agile' in tracking moving targets, i.e. setting and continuously reviewing the specific future reality, setting and reviewing goals and activities to

achieve the agreed future reality, continuously managing change as well as managing the current and future performance of the operate-processes.

So, at a manage-process level the core competence of a competitive firm is agility. The change the manage-processes interface is continuous, only the rate changes.

In order to perform, operate-processes require standardisation and the removal of variances, i.e. to be efficient and effective they have to operate in a relatively stable environment. Manage-processes are concerned with change and translating this change into order-generating rules that control the operate-processes. In other words, manage-processes have to deal with uncertainty and change, filter these dynamic uncertainties and change to create a stable and controlled environment within which the operate-processes can perform. Difficulties in sustaining competitive advantage may be attributable to the inability of the manage-processes to recognise and respond to the changes in the external environment and effectively filter these changes to the operate-processes – i.e. their agility (Figure 2).

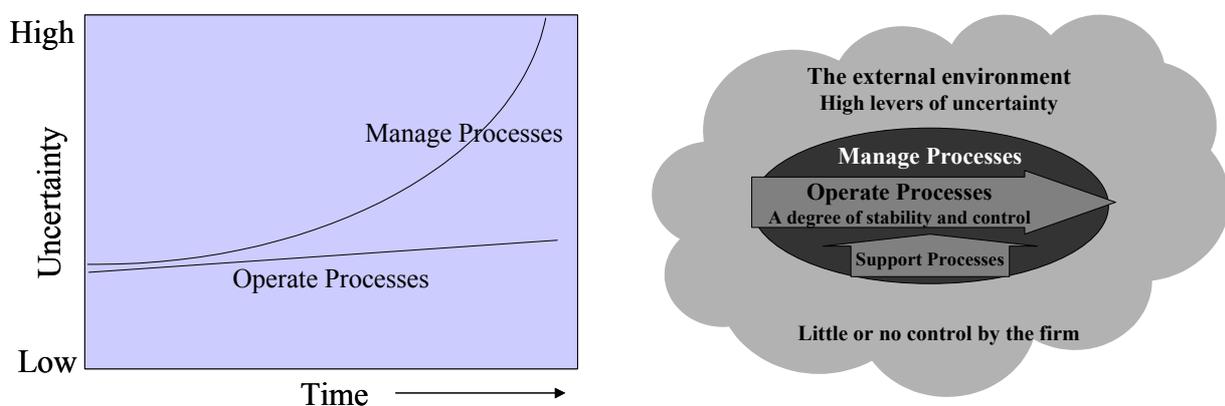


Figure 2. The operating environment of the manage and operate-processes.

Scenario planning, (van der Heijden, 1996) is described as an integrated philosophy of management around organisational learning. Describing learning as growth, scenario planning is the implementation of organisational learning. This discerns the existence of a positive feedback loop, realised through double-loop learning, to create growth and innovation called the business idea. In scenario planning this is called the business-idea of the organisation which is a statement of the organisation's understanding of it's environment and describes the forces driving the business. This is addressed through the use of scenarios describing the possible

future business environments the organisation might experience. Small deviations are addressed through negative feedback loops as in a cybernetic system.

The manage-processes transcend the organisational boundary and extend into the external environment where there is uncertainty and complexity, resulting in the need for organisational learning through the manage-processes conducting positive feedback or generative learning. This is where differences are amplified to develop a new business model to generate revenue and further growth.

Thus, the manage-processes need to incorporate learning activities and manage knowledge in order for the business to develop and grow through the innovation expressed in the business idea. The business idea articulates the driving forces in its environment and the manage-processes manage these forces by applying distinctive competencies to deliver customer value, ensuring competitive advantage.

The knowledge-based theory of the firm (Grant, 1996) tends to relate organisational performance with the creation and integration of distinctive knowledge. Knowledge is an organised state and learning is the act of gaining knowledge, or acquiring a skill or competence.

Thus, the manage-processes are processes in a viable system conducting positive feedback and creating and communicating knowledge. In effect, they manage knowledge into distinctive competencies through learning and positive feedback. These self-reinforcing manage-processes has the effect of accumulating and communicating knowledge, resulting in an increase in the capacity of the organisation to ensure enhanced utilisation of its operate-processes. According to Grant (1996a), 'Firms need to recognise that managing knowledge creation and sharing is one of the most strategically significant activities'. This view is strongly supported by Stewart (1997), 'A firm that constantly learns, accumulates and expands its knowledge base enjoys competitive advantage'.

The research proposition conceptualises the manage-processes as a means of integrating knowledge and knowledge is deemed central to determining a unique mix of customer value as described by a value curve or strategic profile, (Chan, Kim & Mauborgne, 2002). In essence a successful strategy is being different from others. Unique features of a company are expressed in its business strategy and the

business strategy is based on a system of distinctive competencies developed and managed by manage-processes and delivered by operate-processes.

Thus, the greater the uncertainty the greater the amount of significant information that needs to be processed by the manage-processes in order to achieve desired levels of performance. This is consistent with Ashby's (1952) law of requisite verity. So, a knowledge-based view favours integration mechanisms for the manage-processes, which bring the varied knowledge of individuals together to deliver organisational solutions based on knowledge management and organisational learning.

The significance of the events in the business environment is identified through the manage-processes and described by critical-success-factors and internalised through organisational learning. The environment stimulates learning within the manage-processes before being internalised, through double-loop learning, i.e. the combination of corrective and generative learning, (Argyris, 1977). This positive feedback or generative learning results in innovation and growth, ensuring current and future competitive advantage, based on the development of distinctive competencies. This double-loop learning employs corrective learning, ensuring leverage of competencies, such as operational excellence and technical excellence with generative learning to develop new competencies in agility, learning and knowledge management within the manage-processes.

From the above discussion we have deduced that the manage-processes has to operate in an environment with relatively high uncertainty. They have to act as the bridge between the external and internal environment, interfacing with the changeable and unpredictable external environment and creating order for the internal environment. Thus providing a stable environment for the operate-processes to continue creating value for stakeholders. In short, we can define manage-processes as ***processes that generate order within a business.***

We have also deduced that, in order to create and sustain competitive advantage, the core competence of these manage-processes must include:

- ***Agility*** - the ability to detect the need for change as early as possible and change as quickly, as efficiently and as effectively as possible
- ***Leveraging and Managing Knowledge*** – From this, distinctive competencies can be developed to create value.

- **Collective Organisational Learning** – Pursue enhanced knowledge base through knowledge assimilation and utilization.
- **Developing and Leveraging Distinctive Competencies** – New operate-process distinctive competencies need to be developed and levered to sustain competitive advantage.
- **Innovation and The Business Idea** – Pursue innovation based on distinctive competencies expressed in the Business Idea.

But what are these manage-processes?

Defining Manage-Processes: A First Attempt

The CIM-OSA business process architecture (ESPRIT Consortium AMICE, 1991, Childe et al, 1994), as illustrated in Figure 1, identifies three manage-processes. These are: Set Direction, Formulate Strategies and Direct Business

As the focus of this work was to develop a detailed definition for operate-processes neither the CIM-OSA business process architecture nor the subsequent work conducted by Childe et al, (1994) elaborated on the details of manage-processes.

On the other hand Bititci and Turner (1999) studied the competitive structures of organisations from a performance measurement perspective using Beer's (1979, 1981 and 1985) Viable Systems Model (VSM). Beer concluded his research in cybernetics by developing VSM, which defines the components that makes a system viable. According to VSM any system should consist of five sub-systems to be viable. A brief explanation of these systems is provided in the following paragraphs.

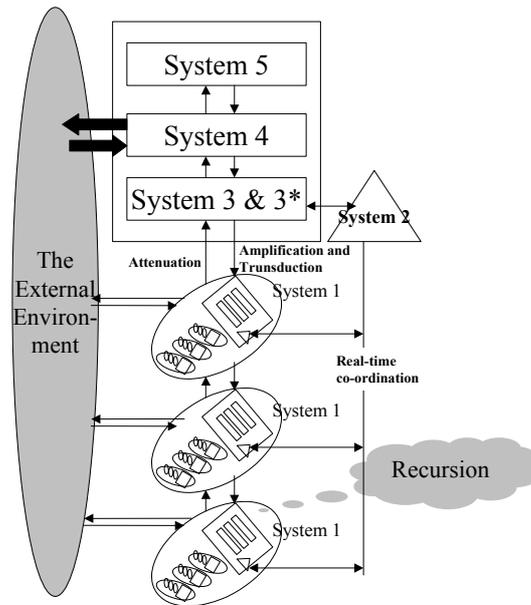


Figure 3. The Viable Systems Model.

At a fundamental level VSM differentiates between the productive and management functions of an organisation (Figure 3). It calls the productive functions System 1s. These produce the goods or services for which the organisation exists. The Management function is responsible for the management of the productive functions.

Typically, an organisation could consist of a number of system 1s but each must be a viable system in its own right, i.e. each must be capable of survival independently of the other system 1s.

Recursion is the concept, which describes the repetitive nature of VSM, in that each operational system must exist as a viable system in its own right. Therefore, each viable system should have its own viable sub-systems. Figure 3 illustrates the levels of recursion in the VSM.

VSM subdivides the management function into four systems. These are systems 2,3,4 and 5.

- **System 5** is the boss. This system sets the direction, the policy and strategy of the organisation.
- **System 4** is the developmental system, which concerns itself with the external environment and, therefore, the future. Its focus is on improvement.
- **System 3** represents the tactical management system that manages the operations of the system 1s. **System 3*** is a subset of system 3 which bypasses

system 2 and provides a direct audit channel between the system 1s and system 3.

- **System 2** is the supervisory system, which prioritises and co-ordinates the activities of operational units in real time.

In VSM the combination of systems 3, 4 and 5 is described as the **Meta System**, which is responsible for identifying and managing change. System 5 sets policy and direction, system 4 provides external feedback and system 3 implements these changes. For this reason, system 2, because of its supervisory nature, does not fit properly into the management function and is usually shown as a system external to the management function.

According to VSM, these five systems represent the core of any viable system, but it must be appreciated that with the recursion of each viable system, the local management functions of that viable system also recur as shown in Figure 3.

Based on the literature covered so far, the Model shown in Figure 4 was deduced. This model consist of five manage-processes which collectively should possess the core competencies identified earlier. These five manage-processes are:

- **Set direction** - i.e. a process that identifies the future environment (specific future reality) in which the organisation can achieve its aims - (From VSM and CIM-OSA).
- **Monitor external environment** - i.e. a process by which the organisation monitors changes and developments in its operating environment and assesses the significance of these external changes and developments with respect to its own objectives and operations - (From VSM).
- **Manage strategy** - i.e. a process that sets goals, the actions required to achieve the goals and forecasts of the consequences of those actions. According to Mintzberg et al (1985) strategies can be both intended and emergent. Therefore, this process must be capable of managing strategies in an integrated seamless manner as the emergent and intended strategies are realised - (From VSM and CIM-OSA).
- **Manage change** - i.e. a process that manages change within the organisation. New directions and new strategies define what the new order should be - the future reality - however, the transition from the current order to the future order needs to be achieved efficiently and effectively - (From VSM).

- **Manage performance** - i.e. a process that monitors and co-ordinates the performance of the operate process with respect to the goals, actions and transitions defined - (From VSM).

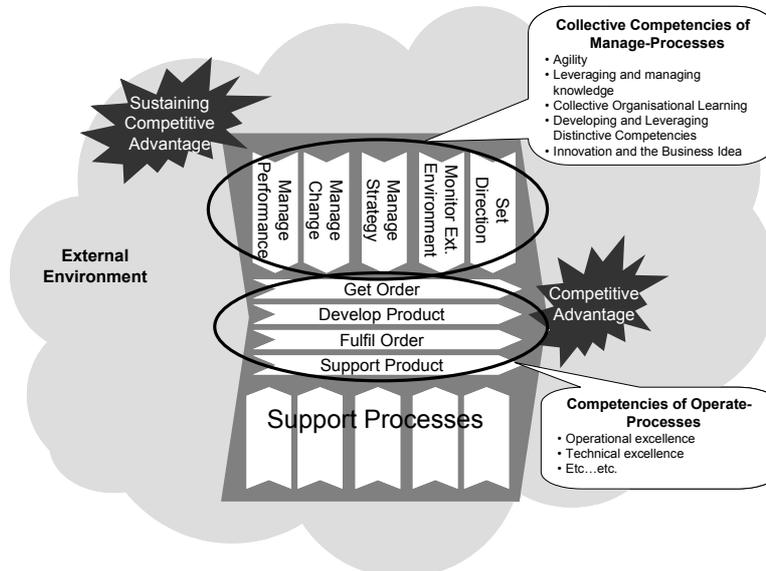


Figure 4. A deductive model for manage-processes.

Inductive Research

The purpose of the inductive research phase was to examine the practices of different organisations to verify and enrich the content of the deductive model, using grounded theory (Glaser & Strauss, 1967).

At the time of writing the inductive phase of the research was on-going, which involved:

- **Development of a structured data collection tool:** A data collection tool in the form of a questionnaire was developed to conduct personal interviews. This questionnaire was designed to extract data on the nature of the manage-processes and how they sustain competitive advantage.
- **Collection of data from case study companies:** This stage consisted of conducting interviews with senior management, based on the framework of questions. The interviews were structured to enable the influence of management actions taken to sustain competitive advantage to be coded and analysed.
- **Coding and analysis of data:** The interviews were coded to identify the categories. A category captures the underlying pattern in the interview data. For

example, developing and leveraging distinctive competences, through corrective and generative learning, was identified as a category as it resolves the main concern of sustaining competitive advantage.

- **Mapping of the results:** Mapping the results helps to move from theory to practice and construct a consensus around the manage-processes. The results are mapped in an influence map (adapted from Senge, 1990), which identifies concepts and their relationships. The influence map represents what is understood to be happening in the organisation, placing concepts in relation to one another and thus creating structure.

The result of one of the early case studies is presented in the following paragraphs.

The case study company was ICI. ICI demonstrated the ability of their manage-processes to recognise the need for radical change, identify and effectively deploy a new business model. As a result, they changed from manufacturing and selling explosives to providing a 'rock on the ground' service for the quarrying industry (Turner,1998). ICI managed this strategic shift based on a new business model which was technology driven. This shift came about through generative learning with the manage-processes developing and leveraging distinctive competencies. Strategic decisions were taken in the explosive business to redirect the company away from manufacturing and selling explosives to selling a 'rock on the ground' service. The manage-processes directed this change and managed the strategy, based on the competence of applying technology through knowledge assimilation and utilization.

The data was collected through an interview with senior management familiar with the strategic shift. This data was then coded and analysed using grounded theory.

The influence map shown in Figure 5 depicts the results of this particular case study.

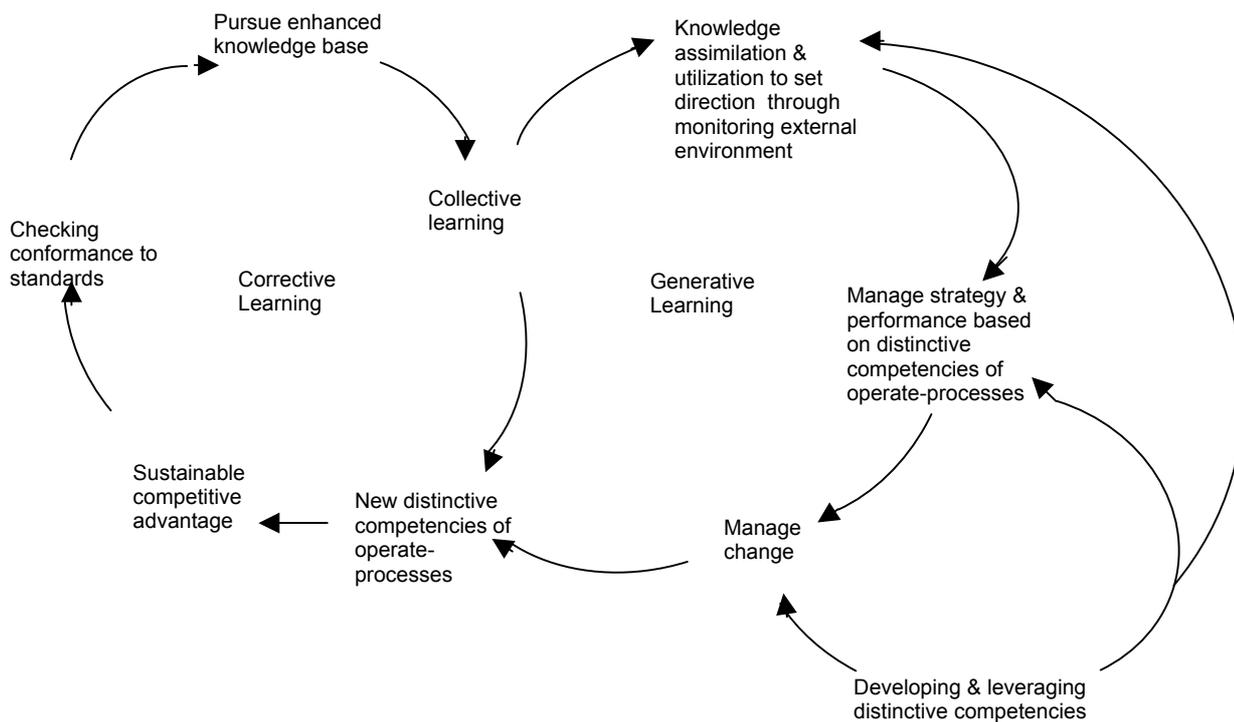


Figure 5. Influence map for ICI case study

The influence map in Figure 5 may be summarised as follows:

- Sustainable competitive advantage was achieved as a result of developing new distinctive competencies of operate-processes as a result of corrective and generative learning.
- The corrective learning loop had resulted in collective learning as a result of the organisation's pursuit for an enhanced knowledge base in the face of a desire to improve operational performance.
- In certain cases the collective learning had led to development of a new business direction, mainly as a result of monitoring of the changing the external environment, which in turn has led to development of new strategies to develop new distinctive competencies for the operate-processes, and management of change

In short, the ICI, Set New Directions, Monitored its External Environment, Managed its Strategy, Managed Change and Managed its Performance, thus demonstrating

the existence of these five manage-processes. Furthermore, we could conclude that these manage-processes collectively demonstrated a certain degree of agility, knowledge management, organisational learning, new distinctive competencies and innovative business idea. Thus validating the existence of the model deduced in Figure 4.

Discussion and Conclusions

The aim of the on-going research programme is to answer the question “what makes the successful companies different?” and go on to develop a practical self-assessment tool that could be used to assess the capabilities of the manage-processes. To achieve this objective, the research discussed in this paper takes a business-process view of the world. Its point of departure is that the operate-processes create competitive advantage. But the manage-processes ensure that competitive advantage is sustained, either through maintaining and developing a winning formula or identifying and changing to a winning formula.

Through a combination of inductive and deductive research, the paper:

- Created an initial understanding of the differences between manage and operate-processes. Essentially, manage-processes operate in an uncertain environment where future reality could be changing continuously. We have deduced that, collectively, manage-processes create order thus providing a more stable environment in which the operate-processes continue to create value
- Demonstrated that manage-processes may be identified, with clear boundaries and scope.
- As a first attempt it identified five manage-processes – i.e. Set Direction, Monitor External Environment, Formulate and Manage Strategy, Manage Change, Manage Performance.
- It has associated some critical competencies, such as agility, organisational learning and knowledge management with these five processes.

In short, it demonstrated that through a combination of deductive and inductive research it would be feasible:

- To better understand these manage-processes.

- To define a system of leading and lagging performance indicators, which would objectively assess the capability of the manage-processes to sustain competitive advantage, such as the maturity matrix illustrated in Figure 6.

Manage Strategy Process

Factors	Process Maturity			Process KPIs
	Basic	Intermediate	Advanced	
Managt Style	Single Problem Solver Autocratic	Problem sharing Participative	Consensus Decision Making	% People involved in consultation and participation % People involved with strategy development % Employee involvement with communication process % Process based activities % Achievement In Realizing Value Use of systematic PMS Extent of employee involvement % Time in strategic conversation
Strategy Develop.	Management team formulate strategy & communicate in an add-hoc way	Strategy is planned & deployed with regular reviews	Strategy emerges in respect of ext & int stimuli. Strategy is updated & communicated continuously	
Strategy Deployt.	Determine targets from informal analysis	Modify goals through formal management processes	Revise Goals Communicate success Unbounded goals	
Org. Structure	Functional Organisation	Functional organisation but with emphasis on processes	Process based organisation	
Value	Cost Based Emphasis	Competitive adv. is based on comb. of quality, price image, delivery and flex.	Clear customer based value proposition	
Dialogue Processes	Vision and strategy. No process for sharing	Clear vision and strategy clearly articulated and shared.	Communicate and Disseminate Success	
Strategic Conversation	Strategic conversation takes place only at formal strategic management meetings	No formal or regular strategic conversation but it is ongoing and takes place informally when the mangt. meets.	MT uses the Web to have a continuous strategic conversation	

Figure 6. A process maturity model for the Manage-Strategy Process (readers should note that the contents of the matrix is for illustration purposes and should not be treated as a definitive output of this research)

However, this research, as well as answering some of the questions posed at the outset, raises some other questions.

- How valid are the five manage-processes? The five-manage-processes deduced from the literature and from limited empirical data. It is, therefore, critical that as a community we gather empirical evidence for or against this proposed processes.
- How to model the manage-processes? Are the existing process modelling tools and techniques suitable? Or do we have to develop new modelling techniques to allow us to accurately model these manage-processes? The model in Figure 6 is a competency model. However, do we have the tools and techniques to effectively model the hard (systems and processes) and soft (people and behavioural) aspects of these processes in an integrated way.
- What are the stages of maturity of these processes? The manage-processes manifest stages of maturity or competency depending on the degree of sustainable value or sustainable competitive advantage. Therefore, further

research is required to identify the characteristics of each stage of maturity, based on competencies, organisational learning and knowledge management.

The intention of this paper was to identify the issue with respect to manage-processes and propose an initial model to initiate further interest and research so that over the coming years we, as a community, develop an insightful understanding of the manage-processes. From a methodological perspective, we would place this research into the initial model development phase of Meredith's (1993) research process. This model requires testing, description and explanation of its' detail so that it can be developed into a framework and a theory.

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