A Model for Customer-Focused Culture Change in the Speculative House-building Industry:

An Executive Summary

By

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Contents

FIGURES III
TABLES III
ACKNOWLEDGEMENTS IV
DECLARATION V
ABBREVIATIONS VI
ABSTRACT VII

1 Introduction 1

1.1 WESTBURY HOMES 4
1.2 RESEARCH OBJECTIVES AND METHODOLOGY 6
1.3 THE ENGINEERING DOCTORATE PORTFOLIO 8

2 A Model for Customer Focused Culture Change 13

2.1 TOTAL QUALITY MANAGEMENT 14
2.2 BUSINESS PROCESS RE-ENGINEERING 16
2.3 THE BALANCED SCORECARD 19
2.4 HOSHIN KANRI 22
2.5 DISCUSSION AND FINDINGS 25
2.6 CONCLUSION 35

3 Stage 1: Development of a Headline Scorecard 36

3.1 METHODOLOGY AND RECOMMENDATIONS 36
3.1.1 The Financial Perspective 38
3.1.2 Customer Perspective 40
3.1.3 Internal Business Perspective 41
3.1.4 Learning and Growth 42
3.2 CONCLUSION 43

4 Stage 2: Operational Performance Indicators 45

4.1 THE CUSTOMER PERSPECTIVE 46
4.1.1 Measurement of Customer Satisfaction 46
4.1.2 Development of a Model for Customer Satisfaction Measurement 48
4.1.3 Implementation and Findings 52
4.2 BENEFITS OF THE CUSTOMER SATISFACTION INDEX 57
4.3 THE INTERNAL BUSINESS PERSPECTIVE 59
4.3.1 Methodology 59
4.3.2 Recommendations 61
4.3.3 Developing Construction Quality Metrics 63
4.3.4 Benefits of Measuring Construction Quality 66
4.4 CONCLUSIONS 67

5 Stage 3: Facilitating Change Through Employee Participation .70
5.1 THE VIRTUOUS CYCLE OF EMPLOYEE PARTICIPATION 71
5.2 CREATING A PARTICIPATIVE ENVIRONMENT FOR CHANGE 73
5.2.1 Process Improvement Workshops 75
5.2.2 Benefits of the Process Improvement Workshop 79
5.3 CONCLUSION 81
6 Stage 4: Feedback to Deployment and Development of Strategy.. 83
6.1 THE ROLE OF BUSINESS PLANNING 84
6.1.1 Phase 1: Developing the Business Planning Process 85
6.1.2 Phase 2: Extension of Employee Participation to the Business Planning and Deployment Process 89
6.1.3 Implementation Considerations 90
6.2 CONCLUSION 91
7 Summary of Conclusions 92
8 Future Research 97
References 99

Appendices

Appendix A: Customer Satisfaction Index Project Planning... 112
Appendix B: Customer Information System Defect Code Hierarchy 113
Appendix C: Process Mapping Pro-Forma 114
Appendix D: Pre-Development Planning Schedule (PDPS).... 115
Appendix E: PIW Review Questionnaire 116

Figures

FIGURE 1: OVERVIEW OF ISSUES FACING THE SPECULATIVE HOUSE-BUILDING INDUSTRY 1
FIGURE 2: SUMMARY OF RESEARCH METHODOLOGY 8
FIGURE 3: THE BALANCED SCORECARD APPROACH TO STRATEGIC ALIGNMENT (KAPLAN AND NORTON, 1996B) 21
FIGURE 4: STRATEGY DEPLOYMENT EFFECTIVENESS: THE IMPACT OF EMPLOYEE PARTICIPATION 31
FIGURE 5: CORRELATION OF DEPLOYMENT MECHANISMS, STAGE OF ORGANISATIONAL *MATURITY* IN STRATEGY DEPLOYMENT AND KEY ATTRIBUTES FOR SUCCESSFUL PERFORMANCE MEASUREMENT 34
FIGURE 6: KEY FEATURES IN THE MEASUREMENT OF CUSTOMER SATISFACTION WITH SERVICE ENCOUNTERS 53
FIGURE 7: IMPROVEMENTS IN CUSTOMER SATISFACTION WITH AFTER-SALES RESPONSIVENESS 57
FIGURE 8: KEY PROCESS ATTRIBUTES FOR SITE SUPPORT PROCESS 61
FIGURE 9: THE VIRTUOUS CYCLE OF EMPLOYEE PARTICIPATION 71
FIGURE 10: PROCESS IMPROVEMENT WORKSHOP STRUCTURE 76
FIGURE 11: PROCESS IMPROVEMENT PLANNING SHEET 79
FIGURE 12: APPLICATION OF PDSA TO BUSINESS PLAN DEPLOYMENT 88

Tables

TABLE 1: IMPORTANT FEATURES OF TOTAL QUALITY INITIATIVE (MENDELOWITZ, 1991) 25
TABLE 2: COMPARING KEY ATTRIBUTES OF CHANGE MANAGEMENT TECHNIQUES 29
TABLE 3: LINKING HEADLINE SCORECARD ELEMENTS TO MISSION AND STRATEGY 43
TABLE 4: EXAMPLE OF TRANSACTIONAL ASSESSMENT OF DISCRETE SERVICE ENCOUNTER 50
TABLE 5: EXAMPLE OF SEMI-GLOBAL ASSESSMENT OF SATISFACTION 51
TABLE 6: EXAMPLE OF GLOBAL ASSESSMENT OF SATISFACTION 51
TABLE 7: SAMPLE CUSTOMER SATISFACTION INDEX (SHOWING TYPICAL SCORES) 55
TABLE 8: COMMUNICATING WESTBURY STRATEGY THROUGH PERFORMANCE METRICS 68

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Declaration

Unless otherwise stated, all work contained herein, is that of the author, has not been used in previous research, nor has it been submitted for a degree at any other university.

Abbreviations

BPR	Business Process Re-Engineering
CAR	Customer Assistance Request
COPQ	Cost of Poor Quality
CSM	Customer Satisfaction Measurement
MBO	Management by Objectives
OPI	Operational Performance Indicator
PAF	Prevention, Appraisal, Failure
PBT	Profit Before Tax
PDPS	Pre-Development Planning System
PDR	Performance Development Review
PDSA	Plan-Do,-Study-Act
PFI	Priorities for Improvement
PIW	Process Improvement Workshop
QUAT	Quality Action Team
RI	Reportable Incidents
ROACE	Return On Average Capital Employed
SPC	Statistical Process Control
TQM	Total Quality Management
WOM	Word Of Mouth

Abstract

The UK house-building industry is increasingly criticised for the quality of its products. Its business drivers are less focused on the needs of customers compared with much of the manufacturing sector. Recent surveys have revealed considerable dissatisfaction among buyers of newly built homes, particularly with the finished product and after-sales service quality. However, this cannot be viewed in isolation from the general business culture that prevails. In light of increasing calls for industry-wide changes, this research uses Westbury Homes as a typical example to examine existing practices in the industry that act as barriers to a change in culture. In determining a way forward, a review of extant change management models including Total Quality Management, Business Process Re-engineering, Balanced Scorecard and Hoshin Kanri provides new insight into the relative strengths of each and the role they can play in the formation of a holistic approach to successful customer-focused culture change. A four stage *Strategy Deployment Maturity Journey* for culture change is proffered that guides the deployment of policy through the introduction of i) a balanced set of headline performance measures, ii) operational performance indicators as drivers for change, iii) a participative programme for change, and iv) mechanisms for development, feedback and review of strategy. Early results indicate that implementation will lead to successful deployment of long-term objectives; specifically, a customer-focused culture that views service and product quality as contributing to future sales and profitability, instead of simply in terms of costs.

1 Introduction

The speculative house-building industry has been compared by some commentators with the automotive industry of thirty years ago (Ball, 1996, b; Miles 1996); characterised by poor quality products and after sales service and a lack of innovation (Ball, 1996, b). However, in direct contrast with the automotive industry of more recent years, the speculative house-building industry has broadly failed to attain the organisational or management developments that have led to improvements in quality and performance in the former (Miles, 1996). The industry faces difficulties on a number of fronts; a shortage of skilled trades; a focus on land procurement and management processes; increasing customer expectations and a historically unpredictable long-term economic environment summarised in figure 1:

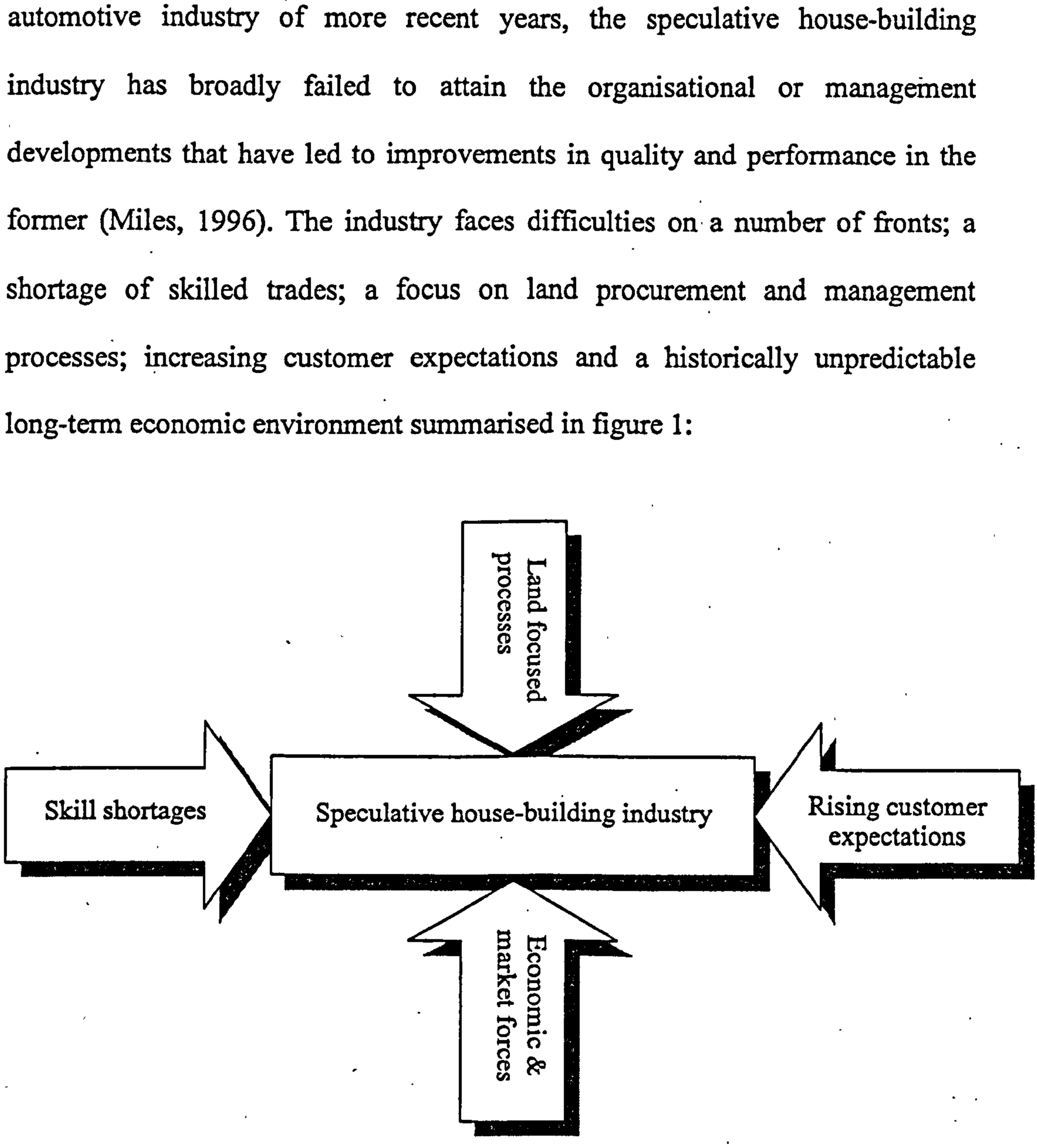

Figure 1: Overview of Issues Facing the Speculative House-Building Industry

The cyclical nature of the wider economy has major implications for the speculative house-building industry and the market it serves. The past few decades have seen a period of frequent boom-and-bust cycles that have adversely affected the UK housing market. The duration and depth of the most recent slump, in the early 1990s, has been closely associated with a marked shift in people's attitudes towards home-ownership (Forrest and Murie 1994). Some commentators have predicted a long-term shift in the way prospective customers view their purchases (Cooke, 1996), suggesting that future purchase decisions would be based on criteria other than the investment value of the house (Glass, 1994). Throughout this period the improvements associated with other manufactured goods and service industries have brought about a rapid increase in customer expectations of product and service quality standards (Cooke, 1996). A study conducted on behalf of The Halifax revealed that less than 40% of UK new homebuyers would be willing to refer their builder to a friend (Smit, 1999, p16). Such is the reputation of the industry as a whole that a majority of new homeowners expect to find defects in their new home with 29% of customers experiencing more than they had expected (NHBC, 1997) and 45% of new-built homeowners expressing dissatisfaction with the after-sales service provided by their builders.

The causes of poor quality are deep rooted and are closely linked with a focus on the land acquisition and management process (Craig, 2001, d). The cyclical nature of land prices makes the management of these core assets critical. The timing of land purchase and its release for development and sale has a major

impact upon profitability. This has resulted in an industry that relies heavily upon the dynamics of land (and house) price inflation for profit (Barlow, 1993). Consolidation in the industry has meant that the top 25 builders now represent 58% of all housing starts (Patullo, 2001). Competition is restricted to a few builders in any locality. In addition, there is an absence of international competition, which has been the essential force for changes within the manufacturing industry over the last 25-30 years. Increasingly, a lack of skilled and directly employed site staff is becoming a major concern for house-builders, with a majority experiencing difficulty securing skilled trades across the UK (DTI, 2001). The use of contract labour, which is common to the industry, correlates strongly with the occurrence of defects (Clarke and Wall, 1996), the shortage compounds this.

Clearly there is a need for widespread improvement throughout the sector in terms of the overall approach to customer focus and quality and in the levels of value added by the sector. This has been recognised by the Government as well as a number of leading academic research institutions and, more latterly, by industry groups. Throughout the 1990s, successive Governments have begun to address the issues of poor quality faced by the wider construction industry, sponsoring two key industry reports; "Constructing the Team" (Latham, 1994), which called for 30% reductions in real costs between 1994 and 2000 and "Rethinking Construction" (Egan, 1998), which highlighted the need for committed leadership, a focus on the customer, integrated processes and teams, a quality driven agenda and a commitment to people. However, although the need

to improve has been clearly stated, there is little evidence to demonstrate any wholesale improvements.

1.1 Westbury Homes

Founded in 1964, Westbury Homes was a family owned business building homes, aimed primarily at the first time buyer, in the southwest of England. In 1985 the business was sold to a management buyout team who, in 1986, completed the launch of Westbury plc on the London Stock Exchange. Following this, the business has grown rapidly; in 2000 producing 4355 new homes, which meet the needs of a wide range of customers, with a turnover of circa £500M.

Westbury has achieved this growth whilst managing increasingly geographically dispersed construction sites and sales centres. This requires well-developed local knowledge of land and planning peculiarities as well as the sub-contract workforce. These factors, amongst others, have led to the formation of strong, regional cultures (Craig, 1997, a; Craig and Roy, 2001). This has presented increasing difficulties in the development of corporate values and deployment of strategy.

Traditionally, success has been measured in terms of the land acquisition process, production volume and sales, but not quality and service. Failures in product quality are regarded as inevitable and after-sales service is seen in terms of cost control. Although Westbury has a well-developed sales process, it had

failed to recognise the importance of ongoing customer satisfaction once a sale had been agreed (Craig, 1997, a). There was no detailed knowledge of the level and nature of product defects or customer satisfaction; consequently it has failed to learn from quality failures.

In 1995 the Executive Board of Westbury Plc signalled its intention to move towards a more customer-focused culture with the launch of a corporate mission statement. This declared the Company's intent to "..become the number one choice of homebuyers by focusing the experiences of its highly trained staff on anticipating and satisfying customer needs with top quality homes and exceptional levels of service."

Furthermore it was recognised that, without fundamental changes to the core building technology, there will be little opportunity for improvements in supporting processes. A number of initiatives were initiated to make a step change improvement to site based processes. This led Westbury to develop and launch an innovative, pre-manufactured house-building concept known as Space$^{4\cdots}$™. As a consequence Westbury Homes is gaining increasing recognition as an innovative house-builder and has started to address the challenges faced by the industry. This innovative approach is in its infancy, however it is already acting as a catalyst for change in the supporting business processes.

The key challenge for Westbury is to change the organisational culture in line with its long-term aspirations. In light of this the research undertakes to examine the influences of cultural formation within Westbury and identify the key success factors common to a range of the more widely established frameworks for customer-focused culture change. The findings of this research will guide the development of new frameworks for successful customer-focused culture change.

1.2 Research Objectives and Methodology

The following objectives define the scope of research presented in this Executive Summary.

1. Through literature review, examine the applicability of current change management models and provide new insight into how key characteristics of each can contribute towards the successful management of culture change.

2. Through an examination of organisational strategy and business processes, propose appropriate performance measures that will promote greater shared vision and focus the whole business on Priorities For Improvement (PFI) in mission critical areas of core business process performance.

3. Examine the role that employee participation plays in the successful deployment of change objectives and thereby propose frameworks for the

introduction of directed employee participation in the deployment and development of business plans and targets.

4. Develop a *Strategy Deployment Maturity Journey* that will guide the organisation towards a customer-focused culture change.

The overall research approach is shown in figure 2. The relevant portfolio submissions are referenced (in parenthesis) to the discussion overleaf:

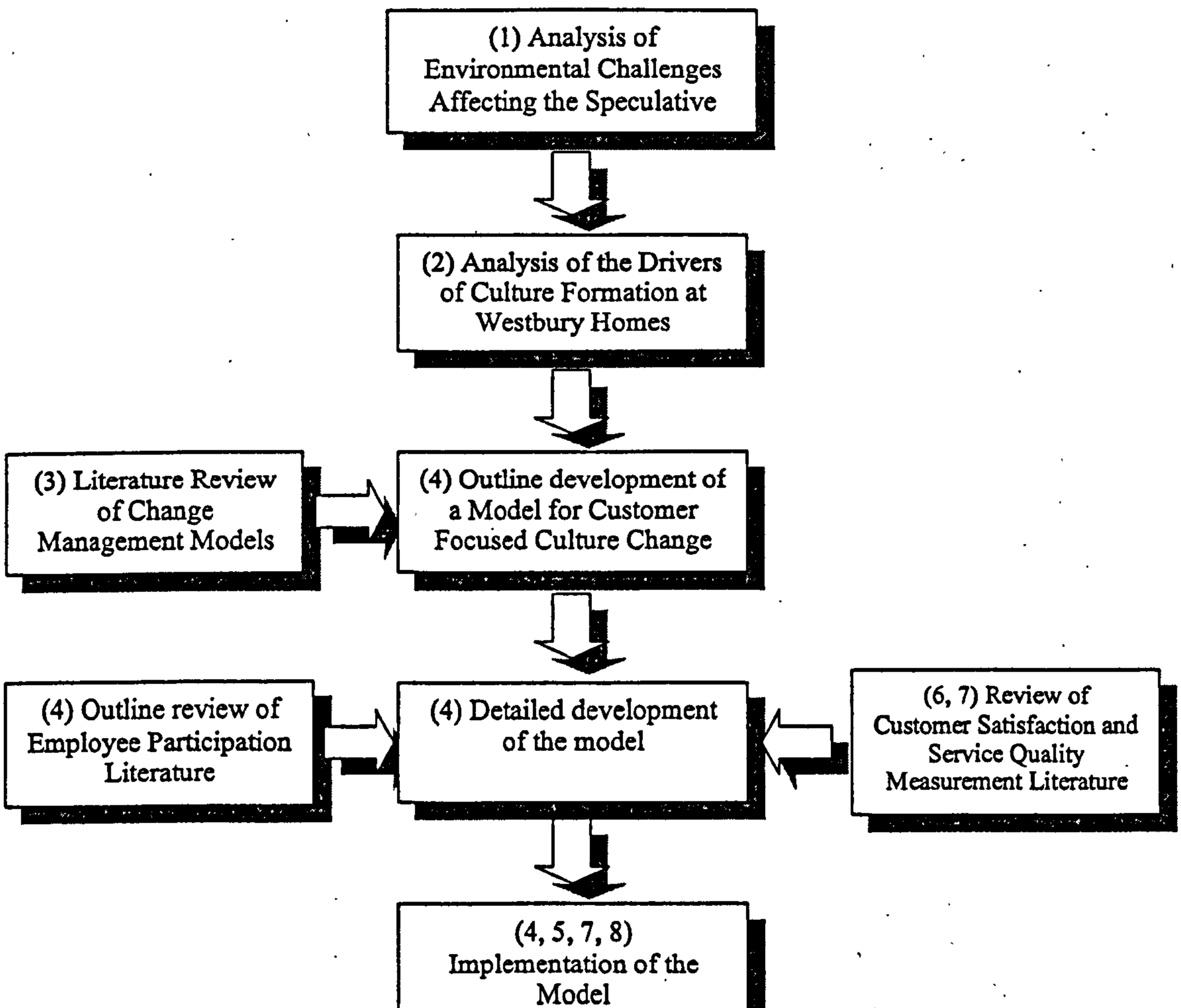

Figure 2: Summary of Research Methodology

1.3 The Engineering Doctorate Portfolio

This Executive Summary has been written on the basis of the research described throughout in submissions to the Engineering Doctorate Portfolio. These papers present a diverse range of research conducted under the core theme of developing a model for customer-focused culture change. The following synopsis provides an overview of the contribution each submission makes to the research. The reader would benefit from reading the portfolio in the following sequence:

1. **A Review of Environmental Factors Affecting the Speculative House Building Industry** examines the key historical, economic and competitive factors that have shaped the industry. The implications of a focus on land processes, poor quality products, a lack of innovation, and increasingly dissatisfied customers are discussed. The paper explores the need for change, describing Government and industry body initiatives to encourage change and the seemingly poor response from the sector. These issues provide context for this research and are briefly discussed in the introduction to the Executive Summary (chapter 1).

2. **Customer Satisfaction: A Model for the Volume House Building Industry.** This paper plays a formative role in this research, discussing findings from a period of business analysis conducted, by the author, within

Westbury Homes. The key factors influencing the formation of the prevailing business culture are described; in particular, the impact of existing organisational policies, performance measures and procedures upon customer satisfaction, product quality, employee morale and financial performance. These findings are presented in the form of a 'downward spiral of customer dissatisfaction'. In response, a number of recommendations are made to achieve a more customer-focused culture - the adoption of a range of customer-centric performance measures, the introduction of continuous improvement processes, and a range of organisational and policy changes. These form the basis for wide-ranging changes throughout Westbury, including the definition and adoption of corporate values. This paper provides an important developmental backdrop to the research presented in this Executive Summary.

3. **A Literature Review of Change Management Models:** Following early research that has focused on understanding the nature of the Speculative House Building Industry and, more particularly, Westbury Homes, this literature review presents an analysis of four common approaches to the management of customer-focused change; Total Quality Management (TQM), Business Process Reengineering (BPR), Balanced Scorecard and Hoshin Kanri. The review applies Mendelowitz's (1991) criteria for a successful TQM initiative to discuss the relative strengths and weaknesses of each approach. The review concludes that, whilst TQM, BPR and Balanced Scorecard satisfy many of the criteria, Hoshin Kanri appears to satisfy each in

full. It is posited that BPR should be viewed as a part of the TQM 'toolkit', which forms an overarching 'umbrella' for sustained improvements, whilst Hoshin Kanri and Balanced Scorecard, in particular, possess particular strengths for promoting successful change through organisational alignment and focused employee participation. These two factors are seen to be key criteria for successful culture change initiatives. This research is summarised in chapter 2, which provides greater clarity to the original findings.

4. **A Strategy Deployment Maturity Model for Customer-focused Culture Change** proffers an approach to the management of customer-focused culture change centred upon the development of an organisation's ability to effectively deploy strategy. This research, based upon the findings from the literature review, presents a **four stage *Strategy Deployment Maturity Journey*** that seeks to develop organisational alignment through cascaded deployment of performance measures, which link long-term objectives to core business process performance, at strategic (Stage 1) and operational levels (Stage 2). The research proposes a staged widening and deepening of employee participation to, firstly, effect change in these same core business processes through a Process Improvement Workshop framework (Stage 3) and then to engage in the development of business plans and targets (Stage 4). This proposition forms the centrepiece of this Executive Summary and is described in chapters 2.5 and 2.6. Chapters 3, 4, 5 and 6 describe the development and, where applicable, the implementation and the resultant

benefits of each of the four stages of the ***Strategy Deployment Maturity Journey.***

5. **"The QUAT Handbook"** is a guide to the effective management of Quality Action Teams developed by the author and a small team of Westbury employees. The handbook presents guide the effective management of problem solving teams. This provides the reader with an understanding of the early approach to implementation of employee participation in improvement activities.

6. **A Critical Review of Customer Satisfaction Measurement: Implications for the Volume House Building Industry** presents findings of research undertaken following earlier recommendations to adopt customer-focused measures of performance. The paper presents the findings of a critical review of Customer Satisfaction Measurement and Service Quality literature. The paper concludes that no evidence of the application of extant models to the industry is to be found in the literature. However, the research posits that a model based upon measurement of Customer perceptions is most appropriate for an industry with infrequent purchase experiences such as found with house building. An outline model, detailing three zones of service and approaches to satisfaction measurement, is presented for consideration. This research is used extensively in chapter 4.1 which describes the development of a Customer Satisfaction Index as part of the ***Strategy Deployment Maturity Journey.***

7. **Developing a Customer-Service Culture in the Speculative House Building Industry:** This paper presents an overview of research to date and summarises work on the development of an operational Customer Satisfaction Index as well as a summary description of the Process Improvement Workshop framework. Development of this framework is described in chapter 5.

8. **A Personal Profile** describes the contribution that this research has made towards academic, professional and personal development of the author and how each of the Engineering Doctorate competencies has been satisfied.

2 A Model for Customer Focused Culture Change

According to ex-Jaguar chairman John Egan, the purpose of a business is "making money from satisfied customers" (Brown, 1993). Efficiently satisfying customers is increasingly seen as an important means of differentiation and attracting a premium price for a company's products (Hall et al, 1992; Mitchell, 1993). Customer satisfaction has been defined as "the state in which customers' needs, wants and expectations throughout the product's or service's life are met or exceeded resulting in repurchase, brand loyalty, and willingness to recommend" (TARP, 1995).

Research has shown that mere satisfaction is often not enough to ensure customer loyalty. Only 13.3% of very satisfied and 23.4% of completely satisfied customers will definitely repurchase (TARP, 1982). According to the results of a report conducted for The Coca-Cola Company (TARP, 1982), the implications of a failure to satisfy customers have an impact that extends beyond the existing customer base. Dissatisfied customers inform a median of 9-10 people of their negative experience. The numbers of potential customers who are informed of this dissatisfaction by negative Word Of Mouth (WOM) advertising can seriously impact upon the long-term survival of a business. Therefore a customer-focused strategy is imperative; improving the quality of products and customer service must be central to such a strategy.

The past few decades has seen the emergence of a number of approaches to the management of customer-focused culture change that purport to provide a solution to this challenge. Total Quality Management (TQM) (Deming, 1986; Crosby, 1979; Oakland, 1989; Atkinson, 1990) has been the most quoted since the early 1980s. More recently a number of alternative/supporting frameworks have begun to come to the fore: Business Process Re-engineering (Hammer and Champy, 1990), The Balanced Scorecard (Kaplan and Norton, 1996a, b) and Hoshin Kanri (Akao, 1991; Kondo, 1998). The following review summarises the relative strengths and weaknesses of each and identifies the key factors that drive success in order to propose a holistic approach to customer-focused culture change.

2.1 Total Quality Management

It is now widely accepted that quality is the responsibility of all employees in an organisation and that only a holistic, organisation-wide, approach to improvement will result in a long lasting culture of continuous improvement. TQM is the embodiment of this philosophy, defined as: "an approach to improving the effectiveness and flexibility of the business as a whole. It is essentially a way of organising the whole organisation; every department, every activity, every single person at every level" (Oakland, 1989, p.14). TQM introduces a strategic approach to producing the best quality possible through constant, incremental innovation (Atkinson, 1990), providing an umbrella for a wide-ranging collection of management techniques designed to bring about

improvements to the processes of the organisation. The TQM philosophy encompasses six core principles (Jacques, 1996):

1) Focus on the outside customer
2) Understanding and managing systems
3) Understanding and managing data
4) Understanding people
5) Mastering improvement
6) Direction and focus.

A wide range of frameworks for these principles has gained prominence over the past two decades (Craig, 2001, a). A common theme is the importance of re-aligning the business and its processes to the needs of customers (internal and external) by engaging employees in process definition, monitoring, control and improvement activities throughout the organisation. Employee participation in process improvement is at the heart of the TQM philosophy and plays an important role in motivation (Kappelmann and Prybutok, 1995). The more widespread the involvement of employees, the greater the outcomes of the TQM programme (Morhmann et al, 1996).

Even though the TQM philosophy has gained widespread acceptance, it is not without its critics, in particular, for suffering from a lack of integration with a sound business strategy (Goodman et al., 1994; Cowley & Domb, 1997; Labovitz and Rosansky, 1997) and for not being wide-ranging, radical or quick enough to

cope with increasing competitive pressures (Childe et al., 1994; Hammer, 1990). Importantly, it is the degree of *organisational maturity* with respect to the management of change is an important factor determining success or failure with respect to the relative speed and success of change.

2.2 Business Process Re-engineering

Business Process Re-engineering (BPR) is a radical approach to business process improvement, which has steadily gained prominence following the growing criticism levelled at TQM (Hammer, 1990). A business process is defined as "a set of linked activities that take an input and transform it to create an output, (Johansson et al., 1993) and falls into four categories (Earl and Khan, 1994):

1. **Management;** through which resources are planned, managed and controlled
2. **Core;** essential for the functioning of the firm and directly affect the external customer
3. **Support;** internal, back-office of the core
4. **Network;** beyond the boundaries of the firm, involving suppliers & customers

Core business processes are of critical importance since they are the distinguishing characteristic that can lead to competitive advantage (Johansson et al., 1993) and are the primary focus of BPR activities.

BPR offers the prospect of improvement by helping organisations achieve specific strategic objectives through discontinuous change to core processes (Johansson et al, 1993) and is seen to provide the means through which long-term business plans and their deployment are linked (Edwards and Peppard, 1994). The essence of re-engineering is embodied in the following principles (Hammer, 1990):

1) Organise around outcomes not tasks
2) Have those who use the output of the process perform the process
3) Subsume information processing work into the real work that produces information
4) Treat geographically dispersed resources as though they were centralised
5) Link parallel activities instead of integrating their results
6) Put the decision point where the work is performed and build control into the process
7) Capture information once and at the source.

However BPR has been criticised for a failure to acknowledge its impact on the human element of business processes (Biazzo, 1998). Consequently, over the past decade, the underlying principles of BPR have been developed further to

emphasise passage from functional units to process teams, from tasks to multi-dimensional work and to emphasise the need for an empowered workforce (Biazzo, 1998). The degree of change ranges from radical, discontinuous complete destruction of the old processes and management structures followed by rebuilding, to the more conservative - more akin to the continuous improvement, Kaizen scale, activities of TQM.

It has been suggested that BPR cannot succeed without the continuous improvement approach associated with TQM (Al-Mashari and Zairi, 2000) and that the degree of change is the key difference between the two approaches. However the difference is more fundamental; BPR is more a collection of techniques rather than a particular philosophy and the proponents of BPR do not claim to promote any particular values other than by influencing values as part of the overall change process (Johansson et al., 1993). However, it has introduced tools and techniques that have proved to be effective in stimulating creative thinking that has sometimes been lacking in TQM implementations.

2.3 The Balanced Scorecard

The Balanced Scorecard is an approach to strategy development and deployment that has been developed over the past decade from an original conception that had much in common with "Tableau de Bord" (Epstein and Manzoni, 1997), a performance measurement 'dashboard' system employed by French businesses for over fifty years. These tools recognise the particularly powerful effect that a balanced suite of appropriate performance measures and targets have on an organisation, exerting a strong influence upon the manner in which it operates. The Balanced Scorecard introduces a suite of strategic performance indicators as the first stage in achieving organisational alignment (Labovitz and Rosanski, 1997), drawing linkages between long-term goals and core processes whilst highlighting Priorities For Improvement (PFI).

A United States Federal Government benchmarking study report, investigating best practices in business performance measurement, identified eight key attributes essential to the development, deployment and operation of an effective system of business performance measurement (Gore, 1997):

1. Clear, consistent and visible leadership involvement
2. A clear and cohesive framework that supports objectives of the organisation and is understood by all levels
3. Effective internal and external communication and participation in development and deployment

4. Accountability for results must be clearly assigned and well understood
5. Must provide intelligence for decision makers, not just compile data
6. Compensation, rewards and recognition should be linked to performance measurements
7. Should be positive not punitive
8. Progress should be openly shared.

The Balanced Scorecard incorporates these principles to develop a management tool that drives strategic alignment and stimulates breakthrough improvements in business processes (Kaplan and Norton, 1993) through four key business perspectives:

1. Customers
2. Internal business
3. Innovation and Learning
4. Financial

For each of these perspectives a limited number of objectives and indicators are selected (Kaplan and Norton, 1993). Decomposition of these measures and objectives at operational level then highlights causal relationships throughout business processes. This provides a linkage from the performance of key internal processes and competencies to those activities that affect overall corporate objectives (Kaplan and Norton, 1992). The effect of this is to focus the whole organisation on those processes that are critical to the organisation.

The Balanced Scorecard enables individuals to see the causal links between the performance of processes and, eventually, that of the whole organisation (Kaplan and Norton, 1996b). This is an important step towards strategic alignment. In the case of Balanced Scorecard this is achieved through an organisation-wide double-loop learning cycle (figure 3).

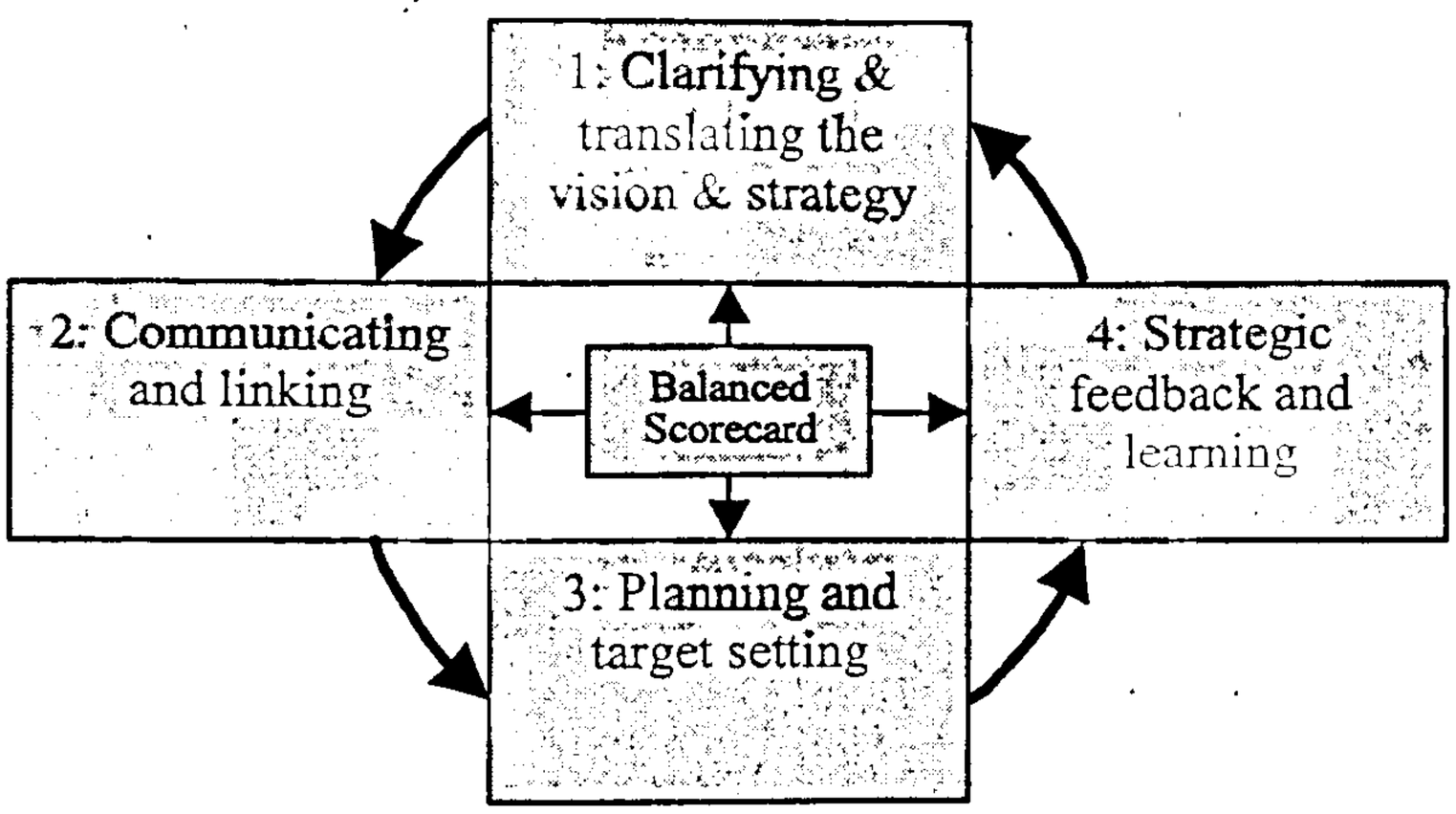

Figure 3: The Balanced Scorecard Approach to Strategic Alignment (Kaplan and Norton, 1996b)

The Balanced Scorecard concept has been developed to such a degree that its advocates purport that it has become an effective tool for articulating and describing strategy at every level of the organisation. Consequently, this enables senior management to focus improvement activities in line with strategic objectives.

2.4 Hoshin Kanri

Hoshin Kanri[1] is a "systems approach to the management of change in critical business processes" (Greg Watson, editor: Akao, 1991). It has been described as one of the cornerstones of TQM (Akao, 1991; ASI, 1992) that engages employees throughout the development and deployment phases of the business planning cycle (from strategic through operational levels) in order to achieve a common purpose throughout the organisation. A key aspect of Hoshin Kanri is a specific focus on breakthrough issues: those deemed to be the most critical to the success of longer-term business objectives. These breakthrough issues are treated separately to, but alongside, maintenance of normal business operations.

Hoshin Kanri has been compared with Management By Objectives (MBO). However, there are a number of fundamental differences (Oakland, 1989; Akao, 1991; ASI, 1992; Lee and Dale, 1998); 1) Hoshin Kanri is a system for organisation-wide continuous improvement; 2) it is inclusive in nature, actively engaging employees in the development and deployment of targets; 3) there is a far greater focus on the process for achieving the target rather than achieving the target regardless of method.

Like the BPR approach to process change, a key premise of Hoshin Kanri is that those tasked with executing a plan should be involved in its development (Akao, 1991). Goal setting and deployment are driven through a participative, top down,

[1] **Hoshin**; a compass, a course, a policy, a plan, an aim. **Kanri**; management control, care for.
Hoshin Kanri; *Management control of the company's focus (Lee and Dale, 1998)*

bottom up process known as Catchball (Cowley and Domb, 1997; Labovitz and Rosansky 1997; Witcher, 1997; Kondo, 1998; Lee and Dale, 1998; Akao, 1991). Each tier of the organisation is required to undertake a four-stage target deployment cycle; Catch-Reflect-Improve-Pass (CRIP) (Craig, 2001, a), in which employees develop their own targets based on mandatory management objectives (Kondo, 1998) derived from breakthrough objectives. These provide guidelines for the development of formal plans, which are defined as Targets + Means (Akao, 1991).

Many organisations have followed the TQM route to achieve improvements over a long period and have since successfully used Hoshin Kanri to consolidate these successes and achieve even greater improvements (Craig, 2001, a). An important caveat to the success of Hoshin Kanri is the need for stronger leadership qualities in a participative environment than might normally be associated within a bureaucratic environment (Akao, 1991; Burbidge, 1993). Importantly, Hoshin Kanri provides structure and instils a degree of rigour that is often missing from more traditional approaches to business management, whilst ensuring full engagement of employees.

At the heart of Hoshin Kanri is the Plan-Do-Study-Act (PDSA) cycle (Deming, 1986). This cycle is the cornerstone of rapid learning, providing a rigorous framework for continuous improvement, which brings rigour to participation in change activities, essential to effective deployment (Lee & Dale, 1988). This fosters double-loop learning, in which underlying values and assumptions can be

questioned. The PDSA cycle operates at both strategic planning and operational implementation levels (Craig, 2001, a) and is comprised of four elements:

Plan: Understand the problem, examine data to establish cause, determine solution.

Do: Conduct small-scale trial to assess validity of proposed solution.

Study: Monitor the trial and collect evidence of performance.

Act: Assess performance and either adopt, amend, or abandon and restart.

Hoshin Kanri provides the business with long-term, staged and cascaded process improvement targets, which form the basis for strategic control (Akao 1991). The universal use of mutually agreed targets and measures enables employees to evaluate process performance and take appropriate, timely, corrective action. This is integral to the rigours of both PDSA and associated planning mechanisms inherent to the Hoshin Kanri approach to planning and deployment.

2.5 Discussion and Findings

In order to assess the relative applicability of the four frameworks it is useful to compare some of the key features of a Total Quality initiative highlighted by Mendelowitz (table 1) with the characteristics of each approach.

Important Features	Main Priority
Customer Satisfaction	Understand customer needs and develop effective processes
Top Management Leadership	Establish quality as a value in the company's management philosophy.
Quality Concepts	Integrated throughout all activities of the company
Corporate Culture	Involve all employees in contributing to quality improvements
Employee Involvement	Strengthen commitment through training and teamwork at all levels
Systematic Approach	Gather, evaluate and act on facts
Supplier Involvement	Make them partners in the quality management process

Table 1: Important Features of Total Quality Initiative (Mendelowitz, 1991)

Customer Satisfaction and Supplier Involvement: Without exception the models discussed have been presented with increased customer focus as the main goal. Likewise each advocates integrating suppliers with the management process.

Quality Concepts and Corporate Culture: BPR cannot be interpreted as a management philosophy (Biazzo, 1998). It does not claim to impact directly upon the values that contribute to organisational culture but it does provide a clearly defined set of principles that are based on process management and time compression. However, the act of re-engineering can have an indirect effect by

forcing an organisation to begin thinking about the need to modify values (Johansson et al., 1993). TQM and Hoshin Kanri have the explicit goal of deliberately effecting changes in corporate culture, achieved through the introduction of double-loop learning and systems thinking. TQM has a vital role to play in any improvement programme, providing a backbone for a management style founded in quality concepts. Hoshin Kanri and the Balanced Scorecard promote strategic alignment and clarity for the whole organisation. BPR promotes the adoption of process principles and creative thinking and can be viewed a mechanism for change that can become integral to the TQM toolkit.

Top Management Leadership: TQM and Hoshin Kanri provide the focus that is required in a more empowered, participative environment. This requires strong leadership and control mechanisms (Burbidge, 1993). It is claimed that up to 80% of TQM initiatives fail due to unsatisfactory leadership (Atkinson, 1990). To achieve success in the increasingly dynamic business environment the role of managers must change from one of supervision to that of training and facilitation (Biazzio, 1998). BPR can help establish a new environment and force a new management style (Attaran and Wood, 1999).

Employee Involvement: The degree of employee participation is a key indicator of organisational culture, which encourages the empowerment of employee groups through power, information, knowledge and skills, and rewards (Cummins and Worley, 1993). The degree of employee participation also impacts upon productivity through improved communication, co-ordination,

employee motivation and individual capabilities. Conversely, a failure to involve employees in decision-making processes results in low morale and a lack of buy-in (Dotun and Kehuo, 1998). It is also important that employees gain an understanding of the relevant business processes, their outcomes and the impact of their performance upon company targets (Akao, 1991; Marquardt and Reynolds 1994). Furthermore employees should be involved in determining objectives and planning for corrective action (Akao, 1991). Both Hoshin Kanri and the Balanced Scorecard offer frameworks for the development and deployment of strategies. However, Hoshin Kanri, in particular, extends this process to engage employees more deeply in developing and deploying strategy. This enables the organisation to move from one that is driven top down to achieve targets and standards, to one that is focused on achieving innovations through employee participation in improvement activities directed specifically at those processes that will achieve long-term goals.

Systematic Approach: Management decisions and improvement activities should be informed by careful analysis of data (Mendelowitz, 1991) However a truly systematic approach requires a leap in thinking (Joiner, 1994); from fixing the output, through fixing [discrete] processes to fixing the [whole] system of which the processes are part. The development of this 'systems thinking' approach is dependent upon new levels of employee empowerment and learning. BPR provides a wide range of tools that develop process thinking, whilst TQM and Hoshin Kanri provide both the environment and, through the PDSA cycle, the tools to facilitate double-loop learning at both individual and

organisation-wide levels. The Balanced Scorecard has an important role to play, providing feedback and learning (figure 3) at the strategic planning level.

Each of the four approaches can be considered in terms of the associated mode of change. Debate centres on the use of continuous or discontinuous change techniques and the use of employee participation to deploy change. Each has merits that warrant application under appropriate circumstances. TQM is seen by some as a prerequisite for successful BPR (Johansson et al, 1993) - to fill the need for ongoing improvement following a re-engineering exercise (Kaplan and Norton, 1996b; Al-Mashari and Zairi, 1993). Balanced Scorecard and Hoshin Kanri operate at both the strategic and operational levels, linking strategy to action, providing a route map for change. BPR is founded in the development of 'time compression' techniques.

Mendelowitz's criteria have provided a useful framework by which the relative strengths and weaknesses of each approach can be evaluated. However the discussion has failed to explicitly focus on organisational alignment. Promoting and maintaining focus on the issues that promote achievement of strategic objectives is considered to be the greatest challenge facing an organisation (Cowley & Domb, 1997; Labovitz and Rosansky, 1997). Failures in this respect are typified by a strategy that is owned by the top but ignored by everyone else, good employees who fail on key goals and a lack of commitment and momentum. In such an environment TQM can fail (Cowley & Domb, 1997), resulting in more activity than improvement (Labovitz and Rosansky, 1997).

Empirical evidence in the literature (Kaplan and Norton, 1996b; Epstein and Manzoni, 1997; Witcher and Butterworth, 1997) suggests that both Balanced Scorecard and Hoshin Kanri can counter this problem and have successfully supported the deployment of organisational objectives. It is also claimed that BPR can address the problem of process realignment, but used in isolation, it fails to address ongoing organisational learning, providing no mechanism through which the organisation is able to deploy and adapt strategy on an ongoing basis.

Table 2 shows summarises the relative strengths and weaknesses highlighted in this discussion. This suggests that Hoshin Kanri satisfies each of the criteria laid down by Mendelowitz.

Approach / Feature of effective TQM	BPR	TQM	Balanced Scorecard	Hoshin Kanri
Understand customer needs and develop effective processes	Y	Y	Y	Y
Gather, evaluate and act on facts	Y	Y	Y	Y
Make suppliers partners in the quality management process	Y	Y	Y	Y
Strengthen commitment through training and teamwork at all levels	Y	Y	N	Y
Establish quality as a value in the company's management philosophy	N	Y	Y	Y
Employee understanding of business goals and purpose and of how each contributes to realisation	Y	N	Y	Y
Integrate quality concepts throughout all activities of the company	N	Y	N	Y
Involve all employees in contributing to quality improvements	N	Y	N	Y
Ability to deliver rapid, radical improvement	Y	N	N	Y

Table 2: Comparing key attributes of change management techniques

However the review has revealed that whilst implementation of Hoshin Kanri is desirable, this approach is highly demanding and requires a high degree of *organisational maturity* with respect to Mendelowitz's criteria before successful implementation would be possible. There are undoubtedly a number of differences and shortfalls in the other approaches, but a combined approach should overcome these and offer a route forward.

Two key themes have emerged from this discussion:

1. Organisation-wide focus on long-term goals is an important success factor in successfully deploying strategy. It will be difficult to achieve any significant step towards a customer-focused culture change unless appropriate mechanisms are introduced that can help develop this important competence.

2. A positive relationship exists between:

- The use of strategic and process performance measures to communicate and achieve long-term objectives,
- The degree of employee participation in determining goals and effecting change and
- The effectiveness of strategy deployment approach.

The discussion suggests that TQM should be considered an overall framework, providing the values and philosophy for a sustained approach to continuous

improvement. BPR should be considered an important part of the TQM toolkit, providing the organisation with the tools necessary to effect targeted process improvements. However, and most importantly, both Balanced Scorecard and Hoshin Kanri offer the participative mechanisms for the development and deployment of business plans and targets that can help produce an environment that is highly conducive to the successful deployment of customer-focused strategies.

The Strategy Deployment Effectiveness Matrix (figure 4) shows the correlation described above and highlights the impact that this is seen to have on the effectiveness of the organisation in deploying strategy:

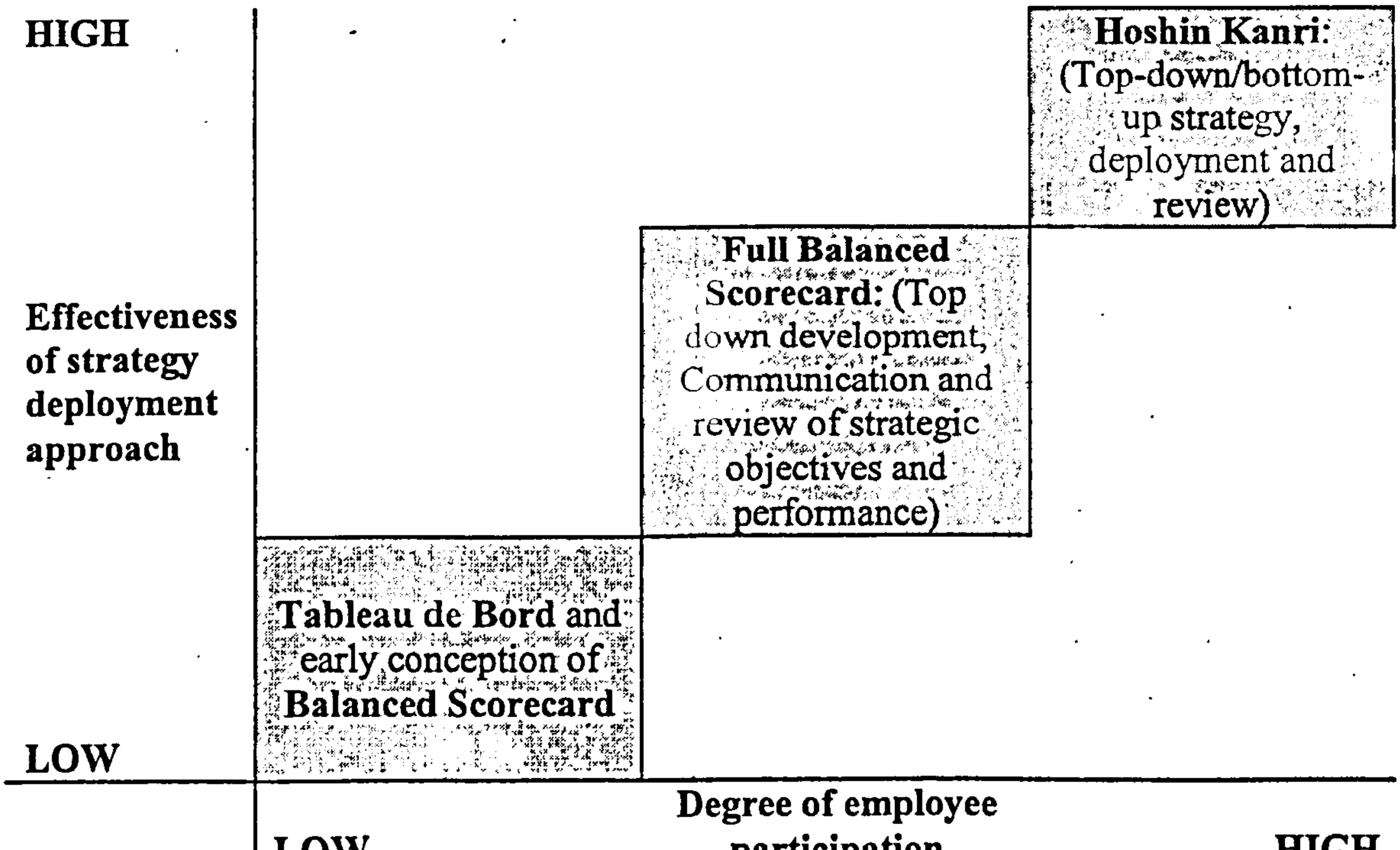

Figure 4: Strategy deployment effectiveness: the impact of employee participation

Commencing with a simplistic, high-level approach to performance measurement, as described in the Tableau De Bord, employee ownership of long-term goals and understanding of the core processes critical to success will start to develop. Next, the organisation begins to cascade the use of performance measures, which are linked to strategy, throughout the organisation. This deepens the understanding of the link between core process performance and the attainment of long-term goals, thereby improving organisational alignment. Priorities for improvement are highlighted throughout the organisation, and given appropriate tools and guidance, employees are able to effect improvements. Finally, through Hoshin Kanri, employees are fully engaged in closed loop cycle deploying and developing strategy.

Developing a strategy deployment capability can be considered a journey based upon the degree to which the organisation is willing or able to create a sense of shared vision and to fully realise the potential of its employees. The 'maturity' of the organisation in this respect can be considered in four stages:

1. **Development of a Headline Scorecard communicating long-term objectives:** communicate strategic priorities and begin process thinking
2. **Development of Operational Performance Indicators (OPI) that communicate medium/short-term strategic intentions:** deepen organisation-wide focus on the performance of core processes
3. **Change through employee participation:** direct and empower employees to effect changes to improve core processes

4. **Feedback to development and deployment of strategy:** extend employee participation to the development and deployment of strategy.

Figure 5 shows the relationship between Tableau de Bord, Balanced Scorecard and Hoshin Kanri, demonstrating how the eight key attributes for successful deployment of a performance measurement system (see 2.3) are met as the organisation progresses along the four stages of the *Strategy Deployment Maturity Journey*.

Stage of organisational maturity in Strategy Deployment / Capability Key Attributes	STAGE 1	STAGE 2	STAGE 3	STAGE 4
	Headline Scorecard	Operational Performance Indicators	Change Though Employee Participation	Feedback to Development and Deployment of Strategy
1. Clear, consistent and visible leadership involvement	Y	Y	Y	Y
2. Rewards and recognition linked to performance	Y	Y	Y	Y
3. Progress should be openly shared	Y	Y	Y	Y
4. Provide intelligence for decision makers		Y	Y	Y
5. Framework that fully supports organisational objectives			Y	Y
6. Should be positive not punitive			Y	Y
7. Participation in development and deployment of objectives			Y	Y
8. Clearly assigned/understood accountability				Y
Strategy Deployment Mechanism	Tableau de Bord	Balanced Scorecard		Hoshin Kanri

Attributes Satisfied

Figure 5: Correlation of deployment mechanisms, stage of organisational *maturity* in strategy deployment and key attributes for successful performance measurement

2.6 Conclusion

This review has presented a four stage *Strategy Deployment Maturity Journey*. Implementation will foster the conditions conducive to successful deployment of a customer-focused culture change, which will bring the following benefits:

1. Increased organisational alignment developed through greater understanding of the cause-and-effect relationship between core process performance and long-term goal attainment.
2. Focused improvements to the critical elements of core business processes.
3. Increasingly effective, empowered employees.
4. Realistic goal setting, and strategy development and deployment.

Each of the four stages of the *Strategy Deployment Maturity Journey* will be developed further throughout the following sections of this Executive Summary.

3 Stage 1: Development of a Headline Scorecard

The primary measures and reward structures of the organisation are important cultural symbols (Lele and Sheth, 1988) and developing headline performance measures that communicate long-term goals is an important first step in steering the organisation towards a customer-focused culture. Such metrics must clarify and translate the company mission (Kaplan and Norton, 1996b).

The objective of stage 1 in the *Strategy Deployment Maturity Journey* is to introduce a suite of *Headline Scorecard* performance metrics that will:

1. Communicate strategic objectives and priorities
2. Promote organisation-wide focus on these priorities and on the improvement of core business processes critical to their successful attainment
3. Clearly indicate ongoing performance

3.1 Methodology and Recommendations

The Westbury Homes Mission Statement provides a platform from which to determine the most appropriate metrics to form a Headline Scorecard. The stated organisational goal is to become the "Number One Choice" (for all stakeholders).

This Mission Statement has been the centrepiece for communicating long-term strategic intent to all stakeholders since its introduction in 1995. However, since its introduction, no attempt had been made to link performance measures to these objectives; a conflict has existed in terms of an over reliance on financial and volume based measures of performance.

To be effective, headline metrics must be selected that can be readily decomposed to an operational level, providing a direct link from the performance of key processes to those activities designed to achieve medium to long-term objectives. This cause and effect relationship will provide all employees with a better understanding of the role they play in achieving medium to long-term objectives, a vital factor in improving performance (Akao, 1991). Importantly, such metrics will enable employees and managers to assess effectively where strengths and weaknesses lie in the organisation and highlight Priorities For Improvement (PFI). This is a fundamental building block for change towards a customer-focused culture.

A series of structured discussions with Executive Board members were used to identify strategies and long-term objectives associated with the deployment of the mission. In each case this discussion was used to highlight which core business processes were most closely linked with realisation of those goals and led to a request for research to identify which metrics best communicate these priorities. These discussions focused on the mission and revealed summary statements of long-term objectives, each associated with the four business

perspectives suggested for use in the Balanced Scorecard (Kaplan and Norton, 1996b):

- Financial — Achieve best operating margins in sector
- Customer — Deliver exceptional levels of service
- Process — Produce top quality homes
- Learning and growth — Develop highly trained staff

3.1.1 The Financial Perspective

<u>Profitability</u>: In chapter 2 the goal of any business was defined as profitable customer satisfaction. Financial measures of performance will always play an important role in determining the overall effectiveness of the organisation in meeting this goal. In determining the financial health of the organisation three aspects of performance are useful - increasing revenues and productivity, reducing cost and enhancing asset utilisation (Kaplan and Norton, 1996b). Typically the measures that reflect these aspects of financial performance are the same for any business and have been in existence for many decades. However, it is important to determine which representation of the data is the most appropriate for the needs of the business. Profit Before Tax (PBT), as a single measure of performance, provides little useful information about the long-term potential of the business. It is more usefully expressed in terms of the resources used to generate it. Return on average capital employed (ROACE) provides a headline view of the effectiveness of the business at providing a satisfactory return with

respect to the levels of investment within the business. ROACE can also be considered to be a function of customer satisfaction, through repeat and expanded sales (Kaplan & Norton, 1996b).

Land Supply: A speculative house builder is entirely dependent upon a sufficient supply of land with detailed planning consent in order to survive (see chapter 1). A measure of the ability of the organisation to achieve this goal should be introduced in order to drive performance in this area. The 'percentage of budgeted sales for which land is available with full planning permission in the forthcoming 12 months is an important indicator of future earnings potential.

Smoothing the Flow of Production and Sales: The market demand for new homes is not particularly subject to seasonal fluctuation (with the exception of a dip in the weeks surrounding Christmas period). The Westbury Board sets build and sales budgets on a quarterly basis; volumes for each period are broadly equal. Regional businesses are expected to achieve approximately one third of quarterly targets in each month. However, the organisation consistently fails to achieve this even distribution of production and sales. The organisation has created a self-induced pattern of production and sales volumes that dramatically dip and peak at the beginning and end of each three-month financial reporting period and more markedly so at half and full year (Craig, 1997, a). This results in rushed production at period ends, which has a critical impact on quality of finish, customer satisfaction and cash flow, restricting the funds available to purchase land for future build and maintain ongoing operations. An even flow of

production and sales is therefore of great importance to the business. A month-by-month measure of adherence to budget in these areas is an important predictor of cash flow in the organisation. This will focus management on areas of weakness and promote action identify root cause solutions to this problem.

The metrics selected by the Executive Board of Westbury plc for the Financial Perspective are summarised below. Performance criteria are applied in each case according to reflect prevailing conditions or current focus.

Profitability:	*Return on Average Capital Employed (ROACE) (target 20% – 30%)*
Land Supply:	*The percentage of the following 12 months budgeted sales with consented land available*
Smooth flow of Production and Sales:	*The number of months in which 1/12th or more of annual budgeted sales are achieved. (target 4 – 8 months)*

3.1.2 Customer Perspective

Profitable customer satisfaction is the key determinant of long-term survivability of a business and is the ultimate indicator of the quality of the total product offer. Measuring customer satisfaction is one of the primary means for focusing the organisation on the customer (Crosby, 1991) and must be included in the headline measures of performance of any business. However, measurement of customer satisfaction is complex and much debate exists in the literature about the most appropriate approaches to measurement for any given service

environment (see Craig, 1997, b). An understanding of the science underlying customer satisfaction measurement is important in determining the most appropriate method to adopt for a speculative house builder. Customer expectations will assist in the formulation of performance metrics within internal business processes (Kaplan & Norton, 1996b). A single figure Customer Satisfaction Index should be introduced. This will be informed by a range of Operational Performance Indicators to provide detailed priorities for improvement (PFI) in customer facing processes (see chapter 4)

3.1.3 Internal Business Perspective

The ability of an organisation to conduct its activities both efficiently and effectively is a key indicator of long-term, future survivability. Organisations have traditionally relied heavily upon financial measures such as ROACE to demonstrate efficiency. In later years more diverse measures such as cost, quality, throughput and time have been used. However, to drive improvements in the effectiveness of the organisation, factors that constitute the Internal Business Perspective must be specifically informed by customer expectations (Kaplan & Norton, 1996b). An understanding of the needs of customers should be used to shape the formulation of measures that will drive change through critical internal business processes and lead to the introduction of completely new processes. By implication, the Internal Business Perspective should be addressed following construction of the Customer Perspective.

In customer satisfaction research conducted by Westbury (Craig and Roy, 2001), responsiveness in dealing with defects was found to be a highly significant factor in customer satisfaction. Although the same research revealed that the number of defects experienced had a weak correlation with overall customer satisfaction, the cause and effect relationship between defects and the need for remedial service activities cannot be underestimated. If defects are prevented, after-sales responsiveness will no longer be an issue. In becoming the 'number one choice', defect prevention must become a primary objective. A single figure Quality Index should be introduced. This will be informed by a range of Operational Performance Indicators to provide detailed PFI throughout site and site support processes (see chapter 4).

3.1.4 Learning and Growth

The contribution of employees to the long-term success of an organisation is well recognised (Duboff & Heaton, 1999). Employers' attitudes have changed from one of resource exploitation to that of nurturing an asset (Eskildsen & Nussler, 2000). The Headline Scorecard metrics must take into consideration the ability of the organisation to retain and develop a stable, empowered workforce. A negative relationship exists between employee satisfaction and employee turnover (Rust & Stewart, 1996). Furthermore there is a correlation between employee satisfaction and profitability (Rust & Stewart, 1996; Heskett et al., 1994). This suggests that **employee retention** is an important headline indicator.

However it is recommended that research be conducted into the development of a more detailed Employee Satisfaction metric that points to specific PFI.

3.2 Conclusion

The proposed headline measures are summarised in table 3. This highlights the linkage between the Mission, long-term strategic objectives and headline performance measures.

Mission	Perspective	Objective	Headline Indicator(s)
Number One Choice	FINANCIAL	Achieve best operating margins in sector	ROACE
			% of following 12 months budgeted sales with *consented* land available
			Number of months in which 1/12th of budgeted sales are achieved
	CUSTOMER	Exceptional levels of service	Customer Satisfaction Index
	INTERNAL BUSINESS	Produce top quality homes	Quality Index
	LEARNING AND GROWTH	Highly trained staff	Employee Turnover

Table 3: Linking Headline Scorecard elements to Mission and strategy

This balanced suite of headline performance measures reflects long-term strategic intent and is an essential first step on the *Strategy Deployment Maturity Journey*. These metrics are designed to communicate where the organisation is trying to get to in the longer term. All of these metrics have been adopted by the Executive Board of Westbury plc and are known collectively as 'the Number

One Choice'. Together they play a central role in the measurement of regional and Group performance.

The introduction of the Headline Scorecard metrics is used to communicate strategic priorities and, by clearly demonstrating performance for each business unit, stimulate improvements in each area. This satisfies the criteria for stage 1 of the *Strategy Deployment Maturity Journey*.

It is now important to develop second tier metrics that demonstrate cause and effect relationships between core processes and Headline Scorecard performance. This is an important element of successful deployment of strategic objectives (Kaplan and Norton, 1996b). This research focuses on the development of metrics for the Customer and Internal Business perspectives.

4 Stage 2: Operational Performance Indicators

The suite of Headline Performance Indicators developed in stage 1 provides focus for the whole business, highlighting those areas of performance that are critical to the success of the business. In stage 2 of the *Strategy Deployment Maturity Journey*, three objectives must be addressed:

1. Identify the relationships that exist between the performance of core processes (for the Customer and Internal Business Perspectives) and long-term goal attainment. Specifically, to develop a greater understanding of the determinants of customer satisfaction and product quality in the speculative house-building sector.

2. Develop models for customer satisfaction and product quality measurement in the speculative house-building industry, and in each case:
    a. Identify Operational Performance Indicators that will highlight priorities for improvement (PFI) in core processes **(Stage 2)**
    b. Use Operational Performance Indicators to inform a single figure, summary measure of performance to be used in the Headline Scorecard **(Stage 1)**

3. Through implementation of Operational Performance Indicators, deepen process thinking and organisational alignment.

4.1 The Customer Perspective

The Customer Perspective must be informed by a detailed analysis of the determinants of customer satisfaction across the range of service encounters experienced throughout customers' relationships with the organisation. To be of real value such an assessment must identify priority areas for improvement throughout the business (Hill, 1996).

4.1.1 Measurement of Customer Satisfaction

Measurement can be of satisfaction with individual transactions (Customer Satisfaction) or an assessment that considers attitude built up from a service interaction history (Service Quality). A service encounter can be categorised as one of three types and measurement should identify satisfaction at each of these (Djupvik and Eilertsen, 1993): **transaction,** satisfaction with discrete encounters; **semi-global,** overall satisfaction with a service domain; **global,** perceived corporate image, usually based on measures of behavioural intent (such as 'willingness to repurchase').

A number of measurement models exist; some explicitly consider the 'gap' between a customer's expectation and perception of performance, while most measure perception only. SERVQUAL (Parasuraman et al., 1988, 1991, 1993) is the most widely used and debated 'gap' model (see Craig, 1997, b) and has been

adopted for use in a broad range of service settings. The model includes five dimensions of service:

- Tangibles: Physical facilities, equipment, appearance of personnel
- Reliability: Performing the promised service dependably and accurately
- Responsiveness: Willingness to help customers and provide prompt service
- Assurance: Knowledge and courtesy of employees and their ability to inspire trust and confidence
- Empathy: Caring, individualised attention the firm provides its customers

A 'gap' or difference score is calculated comparing responses to two similar questionnaires; one that focuses on customer expectations of service, the other on their perceptions of the service they actually received.

Independent measurement of expectation, however, is difficult (Oliver 1981, Grönross 1993, Kristensen et al. 1999). A 'gap' model assumes that the customer has a degree of knowledge of the market to have formed a measurable expectation of service (Keirl and Mitchell 1990). It is suggested that consumer perceptions, not calculations, govern behaviour, and inferential measures provide incomplete forms of the summary judgment consumers might use in quality decisions (Cronin and Taylor, 1994). Empirical evidence shows the superiority of performance-based measures in predicting consumer satisfaction and behaviour (Churchill and Suprenant 1982, Tse and Wilton 1988, Cronin and Taylor 1992, Babakus and Boller 1992, Babakus and Manigold 1992, Boulding et al. 1993,

Brown et al. 1993, Kristensen et al. 1999) and it is more efficient since subjects are required to respond to only half as many items. SERVPERF (Cronin and Taylor, 1992) uses only the perception items of SERVQUAL; relying on an implicit assumption that perception is conditioned by expectation (either idealised or based on prior experience). The empirical evidence highlighting the superiority of performance based measurements, together with problems associated with the formation and measurement of customer expectations indicate that a perception-only approach to Customer Satisfaction Measurement (CSM) is most appropriate with a product that is typified by infrequent purchase, such as a new home (Craig, 1997, b).

4.1.2 Development of a Model for Customer Satisfaction Measurement

For a CSM model to be useful it must identify priorities for improvement (PFI) that can be linked directly to operational processes within an organisation. An evaluation of processes associated with key customer interfaces with the business (referred to within Westbury Homes as the 'Customer Journey') revealed two 'zones' of service (Craig, 1997, b). The first zone includes all transactions that occur from the customer's first encounter with the house builder, up to the point of occupation of the new home. The second zone includes all interactions that take place following occupation of the home. These two zones bring customers into contact with three key elements of the business: Sales, Site and After-Sales. Within these two zones the customer is likely to assess the performance of the

business at three levels, which correlate with the previously described transactions categories:

Service Encounter Category	Approach to Measurement
Discrete	Satisfaction with key transactions
Semi-global	Cumulative experience with a service zone
Global	Overall assessment of the business as a whole

A tool is required that can direct the business to address particular failings in its service to customers along the Customer Journey and identify PFI within operational processes. The SERVPERF dimensions (Craig, 1997, b) offer a platform from which to build such a model. There are of course elements of this model that are not appropriate and equally omissions where SERVPERF does not cater for specific attributes throughout the Customer Journey.

A small team, headed by the author was brought together to identify the requirements for such a tool. Initial research was conducted in three key areas; i) review and analysis of the (aforementioned) science and practice of customer satisfaction measurement (Craig, 1997, b); ii) analysis of customer facing business processes; and iii) brainstorming sessions with Sales Negotiators and After-Sales staff in order to make outline assessments of features considered important by customers and verify the SERVPERF dimensions. This research resulted in outline questionnaires being formulated. Table 4 through table 6 illustrate a small sample of the initial questions that were devised. Table 4 shows an example of a transactional assessment of satisfaction with a discrete service

encounter. Table 5 shows an example of evaluation based on SERVPERF dimensions and a summary measure of satisfaction with a service zone. A global measure of corporate image (table 6) is obtained from an evaluation of willingness to repurchase from the company and recommend it to others.

1. Shortly before moving in, did you or your partner attend a home demonstration?
• Yes • No • Don't know
2. How useful was this?
• Very useful • Quite useful • Not very useful • Not at all useful • Don't know
3. Have you ever phoned Customer Relations Staff with a query or problem?
• Yes • No • Don't know
4. How responsive were they?
• Very responsive • Quite responsive • Not very responsive • Not at all responsive • Don't know

Table 4: Example of transactional assessment of discrete service encounter

1. How do you rate the Customer Relations department on these aspects of service?
• Responsiveness to your individual needs • Setting of appointments • Resolving problems
2. How satisfied are you with the following aspects of the manner in which work carried out by/through the Customer Relations department was conducted?
• Keeping appointments • Politeness of staff • Quality of workmanship • Respect shown for your property
3. How satisfied are you that problems have been dealt with in a reasonable time?
• Very satisfied • Quite satisfied • Not very satisfied • Not at all satisfied • Don't know
4. How satisfied are you with the service received since moving in to your home?
• Very satisfied • Quite satisfied • Not very satisfied • Not at all satisfied • Don't know

Table 5: Example of semi-global assessment of satisfaction

1. If you were looking to move again at some point in the future, how likely would you be to consider Westbury as your number one choice of vendor?
• Very likely • Quite likely • Not very likely • Not at all likely • Don't know
2. If any of your friends, relatives or colleagues were looking to move, how likely would you be to recommend a home from Westbury?
• Very likely • Quite likely • Not very likely • Not at all likely • Don't know

Table 6: Example of global assessment of satisfaction

4.1.3 Implementation and Findings

Recommendations were successfully submitted to the Executive Board of Westbury to appoint a third party to conduct customer research to fully develop the proposed monitor. A commitment was made to invest circa £80K per annum in this project (Appendix A). A well-known market-research company was commissioned to conduct a series of focus-group studies to test the proposed dimensions with participants from a cross-section of homeowners who had recently purchased new homes. These sessions revealed three distinct zones of service: Enquiry to reservation (zone 1), Post-reservation to move-in day (zone 2) and post-occupancy (zone 3), with satisfaction dropping progressively from zone 1 to zone 3. The proposed model and questions were revised based on these findings. Figure 6 shows the completed model, which has incorporated lessons from the literature, business process analysis and customer feedback.

	Zone Of Service			
	Pre-occupation		Post-occupation	
Zone of service	**Zone 1** (Up to reservation)	**Zone 2** (Reservation to move in)	**Zone 3** (After move in)	
Process / Encounter	**Sales**	**Sales, After-Sales, Site**	**After Sales, Site**	**Approach to Measurement**
Discrete encounters	Plot selection	Demonstration & welcome event	Courtesy Call	**Transactional**
Service domain	Overall service	Overall service	Overall service	**Semi-Global**
Overall experience	Customer Journey			**Global**

Figure 6: Key Features in the Measurement of Customer Satisfaction with Service Encounters

The model incorporates three service encounter categories in each of the three zones of service, each being measured using transactional, semi-global or global techniques as appropriate.

The data gained from the pilot study enabled the market research agency to conduct analysis to identify importance weightings. Pearson's correlation coefficients are used in a preliminary analysis to find the significant factors that determine satisfaction with a service domain. They are calculated between the summary measure of satisfaction with a service zone (Q4 in table 5) and responses to the individual items that are measured within it (for example, Q1-3 in table 5).

Regression analyses are next carried out between the summary measure of satisfaction with each service zone and factors that have any significant correlation with it. In practice, ridge regression is used due to problems with multicollinearity of variables (Wonnacott and Wonnacott 1981). The regression coefficients measure the relative importance of the factors in determining satisfaction with the service zone. Important factors that individually receive low (average) scores are highlighted for particular attention - the more important a factor and lower the satisfaction with it, the greater the need for action. The average scores for the factors are weighted by their importance values and added up to provide a satisfaction index for the zone; it is based on an analysis of a variety of responses and, hence, is more reliable than that derived from replies to any single question.

To assess the relative importance of each service domain, a further ridge regression analysis is carried out between a global measure of corporate image, using responses to a question on intent to repurchase (question 1 in table 6) and the summary measures of satisfaction with the individual zones. A similar approach as before is used to derive a weighted-index of overall satisfaction.

The breakdown of the derived Customer Satisfaction Index (CSI) values shown in table 7 highlights priorities for improvement (PFI) based upon derived importance weightings.

Overall CSI Score			64
	A	B	A x B
	Importance	CSI	
Zone 1: Overall CSI Before you reserved your new home	20%	78.1	15.6
Zone 2: Overall CSI After reserving but before moving in	25%	68.5	17.1
Zone 3: Overall CSI After moving in	55%	56.9	31.3
			64.0
Zone 1: Before reservation			
Willingness to provide information	26%	78.3	20.4
Knowledge about new homes	25%	74.6	18.7
Knowledge about the local area	10%	64.4	6.4
Politeness of staff	28%	83.3	23.3
Appearance of staff	11%	85.2	9.4
			78.1
Zone 2: After reserving & on moving in			
Sales office staff	22%	70.2	15.4
Customer relations staff	16%	60.4	9.7
Site Manager	17%	62.7	10.7
Home clean & tidy	21%	73	15.3
Garden satisfactory condition	12%	56.7	6.8
Smooth handover	12%	88.3	10.6
			68.5
Zone 3: After moving in			
Customer relations staff	17%	51.8	8.8
Site manager	12%	59.2	7.1
Making & keeping appointments	14%	58.3	8.2
Politeness & respect of maintenance workmen	8%	74.1	5.9
Overall responsiveness	18%	55.1	9.9
Problems dealt with in enough time	13%	44.4	5.8
Written communication	5%	60.8	3.0
Maintenance workmanship	13%	63.0	8.2
			56.9

Table 7: Sample Customer Satisfaction Index (showing typical scores)

The number of product defects has a weak correlation with satisfaction and is not included in the index. This suggests that customers expect to find defects in their new home; how responsive the after-sales service team is and its effectiveness in resolving complaints seem to be more important. However, care is needed in the dissemination of such information. In order not to lead employees to believe that defects are acceptable, a decision was taken not to make specific reference to this

particular finding within the Company. The need to identify and remove the root cause of quality failures is always emphasised. Zone 3, after-sales service, has by far the greatest bearing upon customer satisfaction. Actual performance across these three zones reveals that, whilst the importance of service performance increases in each of the three zones, results consistently show that customers become increasingly dissatisfied in each case.

4.2 Benefits of the Customer Satisfaction Index

The CSI provides the organisation with a wealth of data that highlights priorities for improvement in customer facing processes. Figure 7 shows two key areas of focus for the management team in one regional business - overall responsiveness and time to rectify customer complaints.

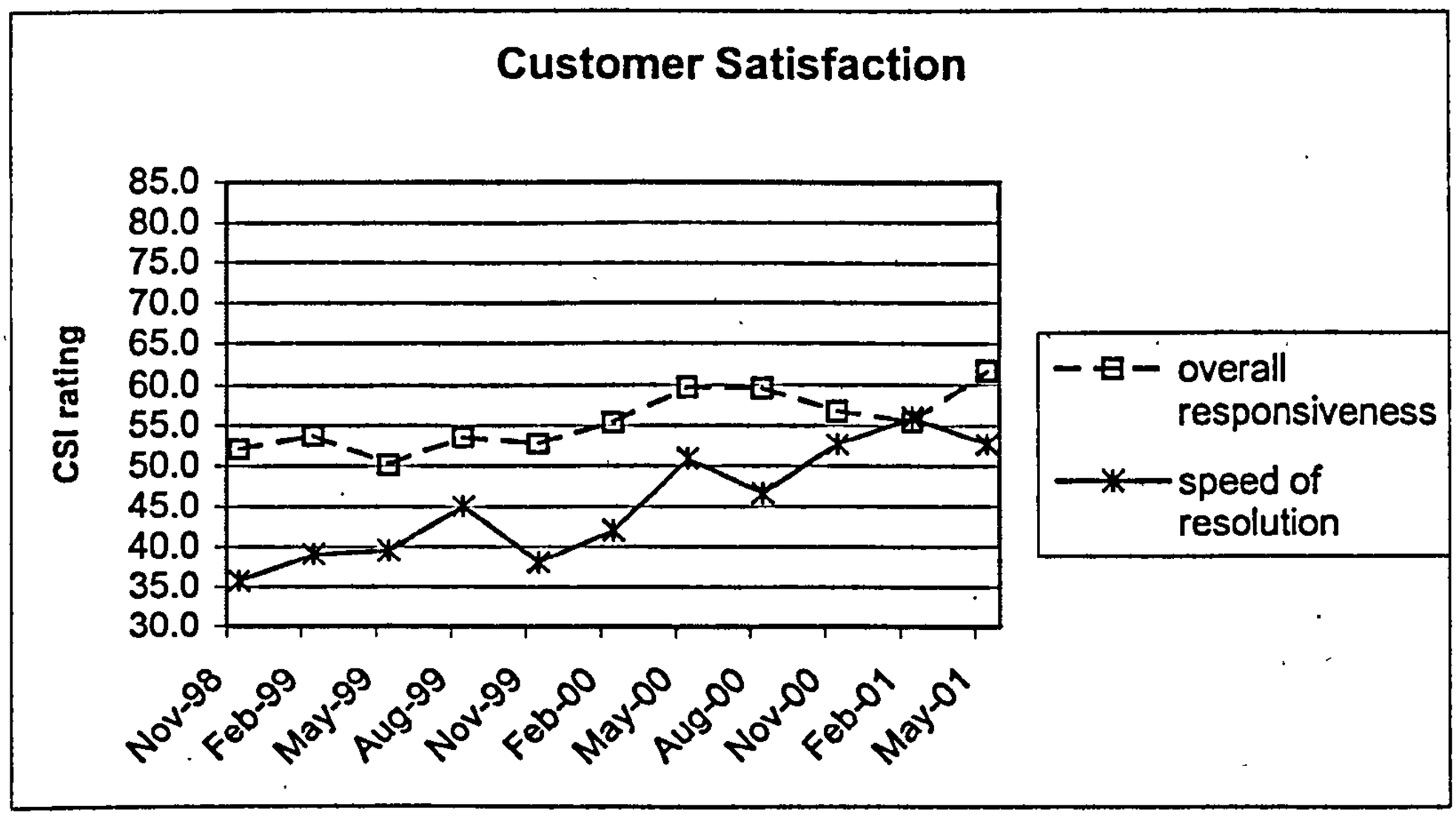

Figure 7: Improvements in Customer Satisfaction with after-sales responsiveness

The time taken to resolve customer complaints was a serious concern. A team investigated the causes of this failure. The causes were multifaceted but can be described simplistically as a function of two variables: i) the number of customer complaints received at any one point; and ii) the availability of tradesmen to make repairs at a time that suits customers. The number of complaints is related directly to production volume and finished product quality failures. A decision was taken to attribute the cost of defect rectification to one of three departmental

budgets (dependent upon root cause) and has helped improve problem ownership and reduce defects. In addition a '7-day' check was introduced, prior to customer handover, in which any small defects are to be resolved. Only when customers have signed a letter of satisfaction is the build team able to hand over responsibility to a Customer Relations team. The resulting improvement in customer satisfaction with the speed of resolution can clearly be seen, increasing to a high point of 56.0%, an increase of 20.3 points. This is also reflected in the overall responsiveness rating, which increased from 52.1 to 61.7 over the same 30-month period.

4.3 The Internal Business Perspective

The research findings from the development of the Customer Satisfaction Index have provided a clear indication of customer expectations and the importance that the business must attribute in each case. However it is most important for the organisation to address the root cause of these problems, which must ultimately lie with an understanding and eradication of the causes of quality failures. The second research objective for stage 2 of the *Strategy Deployment Maturity Journey* is to develop Operational Performance Indicators that highlight PFI in the processes most closely related to the construction and related support processes.

4.3.1 Methodology

To facilitate a rapid understanding of the important causal links between the performance of construction support processes and the on-time construction of high quality finished homes, the author facilitated four scenario-based brainstorming sessions. These sessions were attended by mixed groups of employees representing a cross-section of functions/departments, in two Westbury regional offices. The sessions were run consecutively and each was presented with the following scenario:

"We have just completed the sale of the last home on our best site – Production was on time and the customers in each home sold on the site were delighted with the quality of the home and of the service they received throughout the sale. There has been no requirement for remedial works. The homes were all built right first time and on time – how did we achieve this?"

Discussion was steered in a time sequence, starting with land acquisition, through all intermediary stages of what was described as the site support process, to after-sales service. 'Systems Thinking' (Senge, 1997) techniques were applied to identify key factors influencing quality failures. The results of this discussion were used to construct a map showing the primary cycles of influence and the cause-and-effect relationships that exist in the system (Craig, 2001, b).

Delays throughout the system (Planning approval, Design & Support services, Construction and After Sales Service) are seen to play a major role in the ability of the business to adhere to schedules and targets. Consequently this impacts upon the capability of site processes and, therefore, the quality of the product. This analysis highlights key process attributes for each stage of the *Site Support Process* (figure 8).

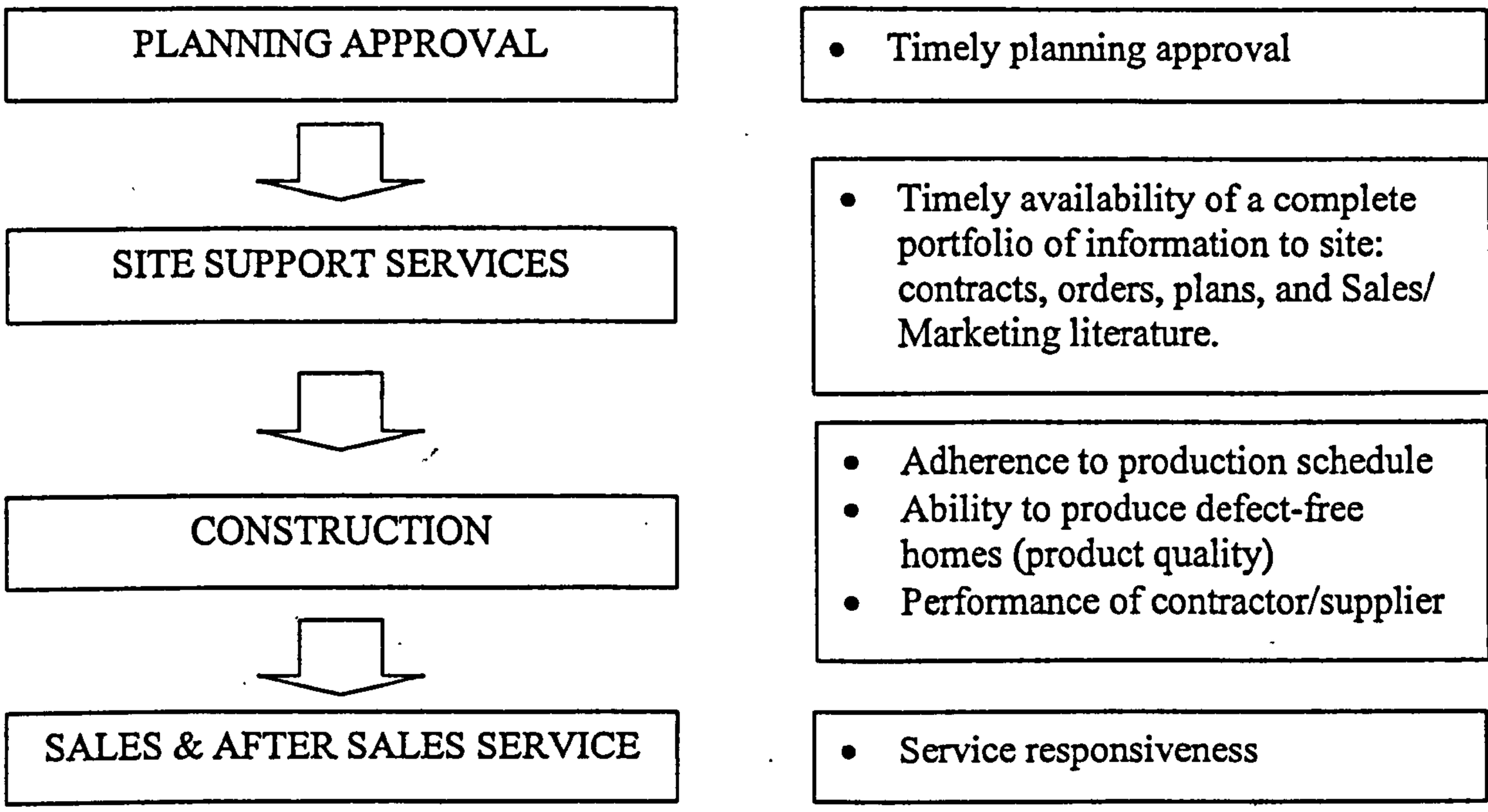

Figure 8: Key process attributes for Site Support Process

The key attributes associated with each process stage were translated into Operational Performance Indicators (OPI) that will highlight performance throughout the site support and construction processes.

4.3.2 Recommendations

As a result of this research, the author presented a series of papers to the Executive Board, successfully outlining recommendations for the adoption of Metrics for each key attribute (Craig 1997, a; Craig, 2001, b):

1. **Timely planning approval** is considered to be of such importance that an Operational Performance Indicator (OPI), which reflects performance in this

area, was introduced into the Headline Scorecard (see 'Percentage of the next 12 months budgeted sales with detailed planning consent'; chapter 3).

2. A mechanism to assess the overall **Site Support Process** performance has been developed, as a result of parallel research, in the form of a Pre-Development Planning System (PDPS; appendix D). This presents a series of milestones and idealised timescales for the completion of key tasks in preparation for a successful start-up of a new site; from successful land purchase through preparation of detailed technical specifications, preparation of and awarding contracts, to on-time construction start-up and completion of show homes. Proposals have been submitted to automate the PDPS, with one output being an overall measure of performance.

3. The development of OPI to highlight **Construction** process performance is discussed in chapter 4.3.3 below.

4. **Service responsiveness** is assessed by Customer Satisfaction Index developed as part of this research (chapter 4.1)

4.3.3 Developing Construction Quality Metrics

In order to complete the initial research into the development of the Headline Scorecard and fully develop a suite of OPI for the Internal Business Perspective a single figure metric is required, which is informed by metrics formed to highlight performance of each key construction process attribute. The earlier discussion of key process attributes has identified a number of factors that should be considered:

Adherence to schedule: The degree to which build schedules are maintained has a critical impact of the finished quality of a new home. Once customers have been given a fixed move-in date it must be adhered to. Delays early in construction will inevitably lead to compressed timescales at the critical finishing stages, leading to increased incidents of defects and poor finishing standards. Data is readily available to monitor adherence to schedule and can be determined from existing information systems.

Defect free homes: In considering how best to enable the business to monitor its ability to produce defect free homes, the Prevention Appraisal and Failure (PAF) model (BSI, 1990) is useful, proposing two categories of quality failure;

1. **Internal Failures** identified during the construction process; for house builders this category is determined by independent inspection by regulatory authorities such as the NHBC (Reportable Incidents).[2]
2. **External Failures** identified relating to warranty claims by customers following purchase with respect to the finish and function of the home (External Failure).[3]

Although the long-term objective for Westbury is to design out all occurrences of failure, reducing the occurrence of external product failures must be a priority. No organisation-wide mechanism for collating such data existed.

In order to ascertain priorities for improvement (PFI) in external failure trends, a team was brought together by the author, which designed, developed and implemented a networked Customer Information System (CIS) database (Craig, 2001, b). The CIS facilitates rapid recording of complaints received by phone or in writing, records defects via a predetermined code hierarchy (Appendix B) and automates administration of the complaint handling process. The database provides the basis for standardised reports, which highlights defect trends

[2] Defects identified by third party, NHBC or Local Authority, inspections conducted throughout key stage of the construction process.

[3] Customer expectations of performance are moderated through a *'What's Covered'* document, produced by Westbury. This describes to customers the standards to which new homes are built and what potential 'settling' to expect from a new home as well as outlining, in an equitable manner, those aspects for which Westbury will accept responsibility, and those which remain the responsibility of the customer.'

(Customer Assistance Requests – CAR), complaint resolution time and cost (Cost of Poor Quality - COPQ).

Having established the infrastructure necessary to monitor performance, the Executive Board of Westbury requested that the following metrics be combined to form a single figure construction quality index in order that it could be included in the Headline Scorecard (Craig, 2001, b):

- NHBC Reportable Incidents (RI)
- Cost of Poor Quality (COPQ)
- Customer Assistance Requests (CAR)
- Adherence to budgeted construction schedule

The Executive Board requested a number of changes to the final model (Craig, 2001, b). In order to better reflect the differing product mix across the Group COPQ and CAR measures are weighted by average square foot of property built on each regional business. Adherence to schedule was considered so important that it was elevated to the Headline Scorecard (see p38) Each factor is equally weighted to give a potential 100% score and is summarised in a single figure metric named the 'Group Quality Index' (GQI), which forms part of the Headline Scorecard. Each element in the GQI is subject to specific 'acceptable performance criteria' and weighted equally to give a single item measure of site performance. The index was launched in May 2001 and is now a key measure of

site quality performance that is used to focus resources at those sites most in need of investigation, support or development (Craig, 2001, b).

4.3.4 Benefits of Measuring Construction Quality

The introduction of the construction quality metrics has triggered a wide range of change initiatives throughout the organisation. In one case a regional business unit has achieved a 50% reduction in defects in the installation of heating and plumbing equipment (Craig, 2001, b). Although there is some seasonal effect at work – this does not account for the fall in recorded complaints. The improvements were the result of recommendations to change radiator valve specification and to introduce earlier and more rigorous pressure testing procedures.

The metrics revealed a significant level of complaints regarding the standard of finish prior to handover of the home. As a result a pilot programme with a directly employed, multi-skilled team for the finishing stages of the build process was established. This significantly reduced the number of handovers between different trades and resulted in a 50% reduction in customer reported defects over a one-year period (Craig, 2001, b).

4.4 Conclusions

The introduction of the Customer Satisfaction Index and Quality metrics has significantly increased organisation-wide focus on both customer satisfaction and product quality. Importantly there is now a more widespread understanding of the effect of performance upon the realisation of long-term goals.

The Customer Satisfaction Measurement Model presented in this research provides a novel approach to measuring new homeowner satisfaction with the service they received throughout the first six months of the house purchase and post purchase 'journey'. A number of conclusions can be drawn from this research:

1. A perception only approach to customer satisfaction measurement is preferred where customer expectations are considered to be relatively under-developed (as is the case when purchasing a new home).

2. New homeowners have low expectations of product quality. The number of defects has a low correlation with overall customer satisfaction. Responsiveness in remedial work has greater significance.

3. Three zones of service have been identified (pre-sale, sale and post sale) and customers place increasing importance upon service received as they proceed through each service zone.

4. Satisfaction scores decrease as customers migrate through each of the three zones of service

A 'Systems thinking' approach has been applied to develop a clear understanding of those key attributes in the *Site Support Process* that are critical to the achievement of long-term goals. Table 8 summarises the causal links between the selected performance metrics:

Mission	Perspective	Objective	Headline Indicator(s)	Operational Performance Indicator(s)
No 1 Choice	Financial	Best Operating Margins in Sector	R.O.A.C.E.	Existing reporting mechanisms
			The number of months in which 1/12th or more of annual budgeted sales are achieved.	
			The percentage of the following 12 months budgeted sales with consented land available	
	Customer	Exceptional Service	Customer Satisfaction Index	CSI Zone 1 CSI Zone 2 CSI Zone 3
	Internal business	Top Quality Homes	Group Quality Index	NHBC RI's CARs COPQ
	Employee	Highly Trained Staff	Employee Turnover	Existing reporting mechanisms

Table 8: Communicating Westbury Strategy through performance metrics

These satisfy the criteria laid down for stage 2 of the *Strategy Deployment Maturity Journey*:

1. The cause-and-effect relationships that introduce delay and failures in Site Support, Construction, Sales and After-Sales processes have been identified.
2. Ongoing performance can be highlighted through a range of Headline Performance Measures and Operational Performance Indicators (OPI)
3. The metrics promote organisation-wide focus on priorities for improvement

The Headline Scorecard Metrics and Operational Performance Indicators in each of the four perspectives of the Balanced Scorecard (Kaplan and Norton, 1995) satisfy the criteria for the first two stages of the *Strategy Deployment Maturity Journey*. Employees must now be provided with the frameworks and skills to effect improvements.

5 Stage 3: Facilitating Change Through Employee Participation

The development of the Headline Scorecard and Operational Performance Indicators (OPI) provides the organisation with a means to broaden and deepen a sense of shared vision and to effectively target improvement activities. In stage 3 of the *Strategy Deployment Maturity Journey*, priority is placed upon the development of a framework for employee participation as a mechanism to effect change.

The research objectives for stage 3 of the *Strategy Deployment Maturity Journey* are:

1. Determine the criteria for the successful application of Employee Participation in change initiatives.
2. Develop a framework for employee participation that:
    - Develops a strategic continuous improvement capability
    - Deepens employee understanding of the relationship between individual role and Company objectives (shared vision)
    - Broadens and deepens process thinking
    - Directs improvement activities to those priorities identified through Operational Performance Indicators.

5.1 The Virtuous Cycle of Employee Participation

The importance of employees clearly understanding the relationship between their role and the achievement of company targets cannot be underestimated (Akao, 1991). A participative approach to management provides employees with the necessary tools and collective knowledge and understanding to increase self-motivation (Campbell, 1997; Senge, 1992). Figure 9 shows the relationship between employee participation and the key factors essential for successful deployment of change. At the heart of this is a primary cycle (i_1) in which participation drives a cycle of knowledge, understanding, motivation and goal attainment.

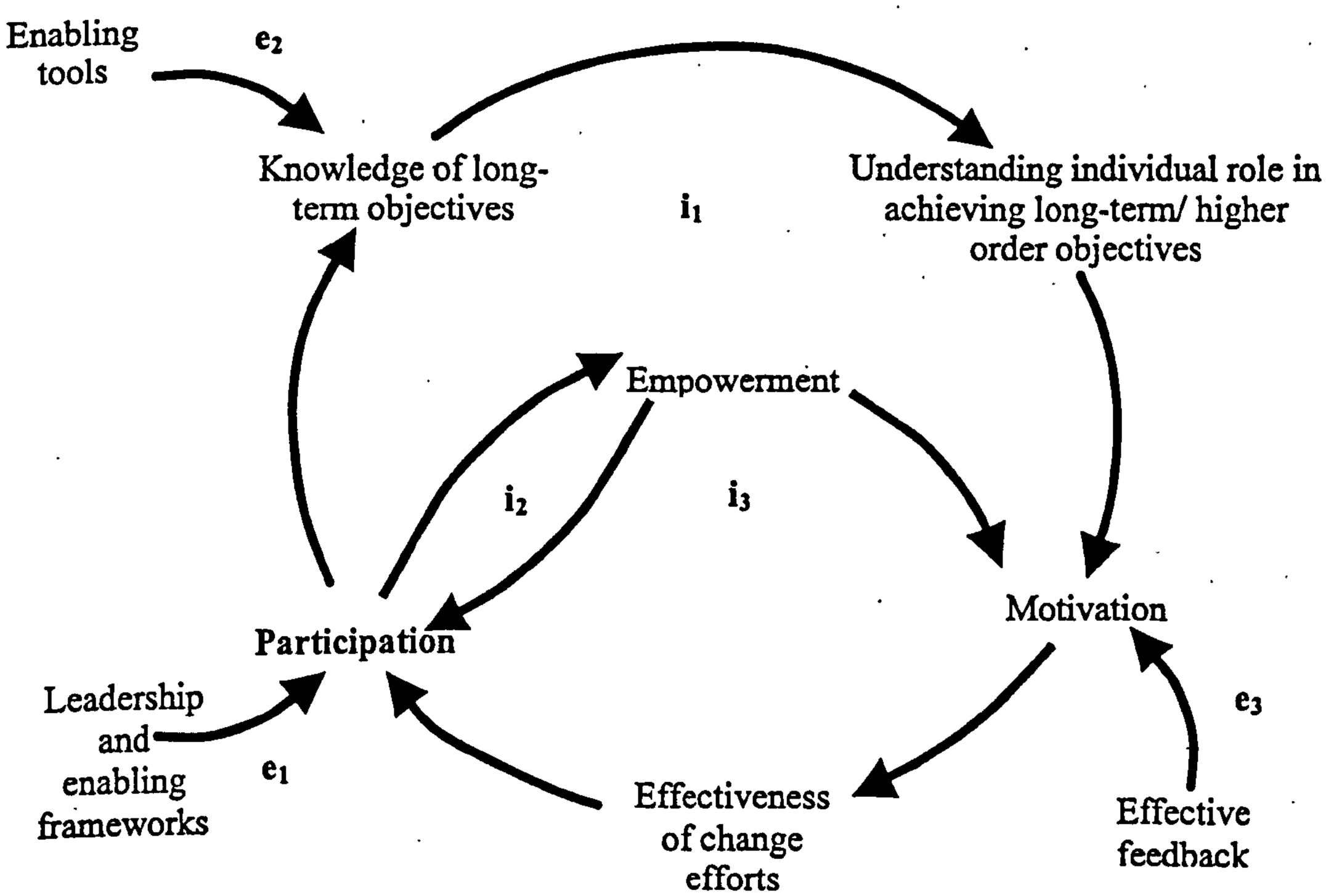

Figure 9: The Virtuous Cycle of Employee Participation

Three requirements must be satisfied in order that people will be motivated in their work (Oakland, 1990):

1. The work must be meaningful (understanding)
2. They must have responsibility for the outcome of their work (empowerment)
3. They must have knowledge of the actual results of their work (feedback)

Well-motivated employees have a positive effect on the culture of the organisation, enabling people to make meaningful improvements to their performance, and hence that of the organisation (Robinson, 1994; Nykodym et al, 1994; Burbidge, 1993; Handy, 1986). A strong relationship exists between participation and empowerment; indeed they can be considered as corollaries (i_2) (Collins, 1994). Furthermore, a significant positive correlation exists between empowerment and motivation (i_3) (Kappelman and Prybutok, 1995). This reinforces the impact of a participative approach. Where a participative approach is seen to succeed it is recognised that this will foster greater ownership of objectives (Kondo, 1998) and an increased willingness amongst employees to participate (Coyle-Shapiro, 1999), thereby completing the *Virtuous Cycle of Employee Participation* (i_1).

However, a degree of caution must be exercised in the management of an empowered, participative organisation since such a workforce can only be considered effective where a sense of common purpose exists; attempting to foster empowerment without appropriate structures in place will both increase

stress and raise the burden of management (Labovitz and Rosansky, 1997; Senge, 1997). The need for stronger leadership qualities in a participative environment has already been discussed. This, together with 'enabling' structures is shown as the external control on participation (e_1). An essential component of this control is the provision of tools and techniques (e_2) that assist employees in the adoption of a rigorous approach to the development of knowledge and understanding of the challenges faced within the work environment.

5.2 Creating a Participative Environment for Change

To progress further along the *Strategy Deployment Maturity Journey* there is a need to develop a continuous improvement framework that will enable the organisation to cultivate the *Virtuous Cycle of Employee Participation* and utilise the priorities for improvement (PFI) identified in Stages 1 & 2 to focus change activities.

Successful change requires that employees develop an understanding of the relevant business processes and their outcomes (Marquardt and Reynolds 1994). This requires a more structured and systematic approach to employee participation as part of a journey towards more strategic continuous improvement practices (Bessant and Francis, 1999). Employees must develop new skills, beginning with an understanding of business processes and how to identify weaknesses, extending to Systems Thinking techniques (Senge, 1997).

The level of maturity throughout the organisation with respect to TQM principles is a significant factor in determining an appropriate framework for change (Akao, 1991). Westbury had little experience in participative change programmes (Craig, 2001, b). As a first step a directed approach was preferred to a quality circle approach in which the principle tenet is self-governance. A Quality Action Team (QUAT) approach to directed employee participation in continuous improvement (Gaze, 1999), modelled on a UK car manufacturer, was introduced. A series of milestones, based upon the Plan-Do-Study-Act (PDSA) cycle (Deming, 1986) were developed to help maintain focus and maximise the effectiveness of the teams (Craig, 2001, c). Experience with this approach will begin to introduce the conditions described in the Virtuous Cycle of Employee Participation, However, once employees become accustomed to participation of this type, a step change is required. The organisation must move away from discrete improvement activities to deepen and widen systems thinking to the continuous improvement of whole processes.

5.2.1 Process Improvement Workshops

A framework is required to provide a rigorous and structured approach to process improvement that helps employees to develop:

- A hands-on application of the PDSA cycle
- Understanding of the processes of which they are a part
- Internal/external customer expectations
- Problem solving techniques
- Improvement plans for priority areas

A small team was formed (Craig, 2001, b), at the instigation of the author, to develop a workshop format that satisfied the aforementioned criteria and provided the conditions identified in the Virtuous Cycle of Employee Participation. The resulting workshop was developed, in two parts, with preparatory and intermediary exercises designed to reinforce complete ownership of all activities by the delegates and ensure real process improvements result. The PDSA cycle is integral to the workshops, which are structured as shown in figure 10.

PLAN:	Understand the nature of the process; determine the root cause; plan solutions.
DO:	Conduct small-scale trials
STUDY:	Monitor trials
ACT:	Review results; adopt, adapt or abandon and start again

Delegates are invited from each element of the process(es) under consideration. Senior management commitment to the workshop approach and objectives is critical to success (Craig, 2001, b).

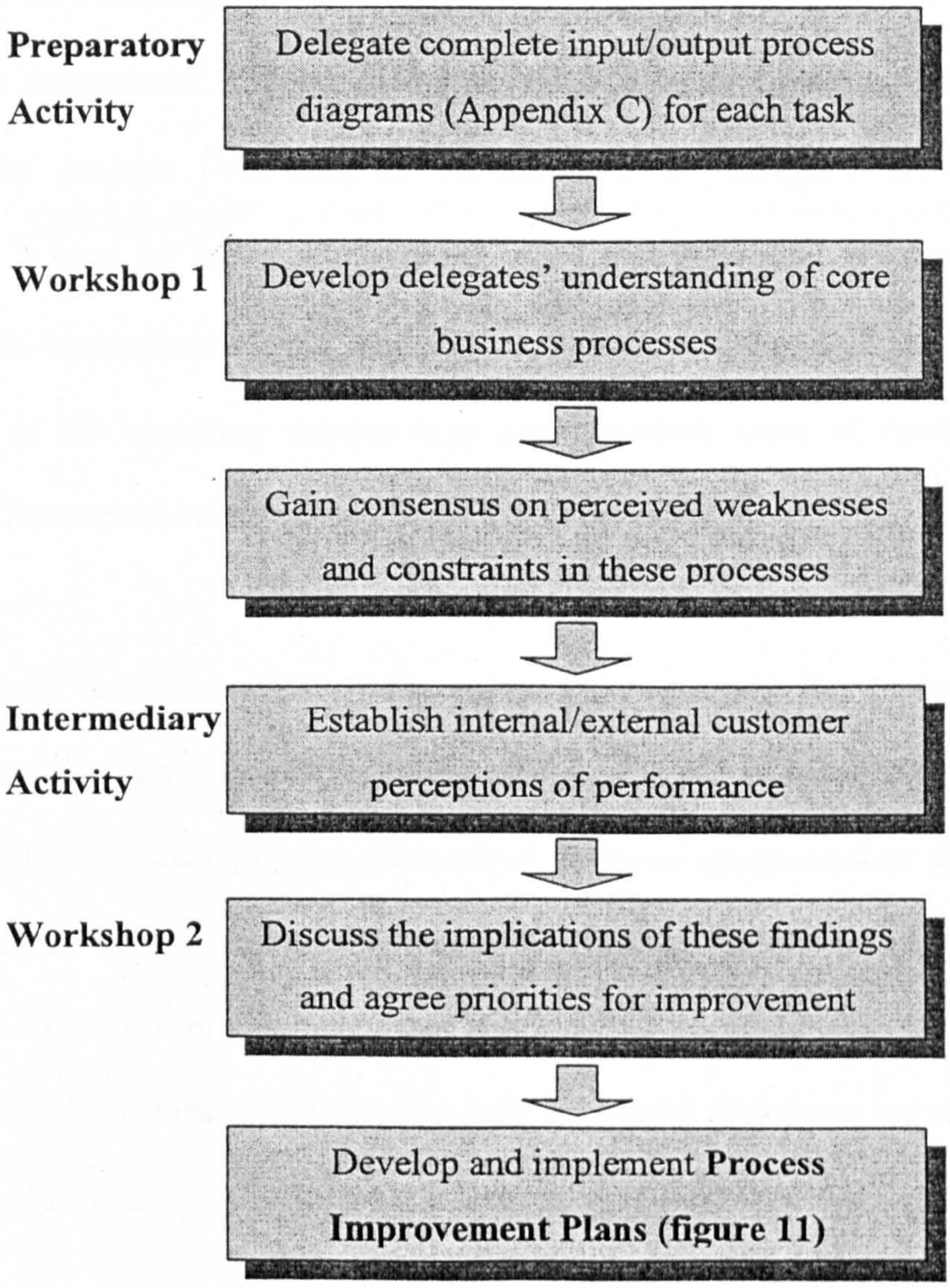

Figure 10: Process Improvement Workshop Structure

Workshop 1

Prior to the first workshop delegates complete Process Mapping Pro-forma (appendix C), which describe the inputs and outputs for each individual task. The workshop commences with a briefing by the Managing Director who sets the context for change. Following an introduction, the delegates are asked to construct a map of the whole process using the individual pro-forma. This exercise is accompanied by a carefully facilitated discussion focusing on the structure of the emerging process map and perceived areas of weakness and priorities for improvement.

The session continues with a discussion focused upon the importance of *management by fact* and understanding customer expectations and perceptions. In light of this debate, delegates are required to devise questionnaires that will be used in an on-the-job exercise to determine internal customer expectations of service at the critical process interfaces and identify the attributes most important to enable those customers to complete their own tasks. Delegates are required to analyse and summarise this feedback in conjunction with their managers.

Workshop 2

This commences with a series of problem solving exercises, in which a number of basic problem solving techniques are introduced (brainstorming, affinity diagrams, cause & effect analysis) and monitoring techniques (check sheets, run

charts, histograms) and analysis (Pareto). Great emphasis is placed upon the analysis of data to support the identification of: a) the root cause of problems, and b) techniques for the development of the most appropriate solutions.

Feedback from the intermediary exercise is used to review the process map produced in the first workshop and highlight priorities for improvement. The remainder of the workshop is dedicated to a discussion of the importance of rigour in the development and deployment of plans in continuous improvement activities. Discussion is focused upon the definition of 'plans' as *targets* plus *means* , the importance of control data and contingencies, as well as ownership.

Delegates are then introduced to and complete Process Improvement Planning Sheets (PIPS) (figure 11), for each of the PFI identified throughout the workshop. In a number of cases the output of these workshops are PIPS that indicate the need for further, more detailed analysis. This extended activity is managed through the QUAT process or trial implementation if solutions are agreed during the syndicate sessions based upon data to hand.

Process Improvement Plan					
Process	To what process does this plan refer?				
Customer	Who will directly benefit from the change?				
Objective	**Target**	**Means**	**Owner**	**Control Data**	**Control action**
The overall aim of the plan	What level of change is required and when must it be achieved?	Precisely what mechanism will be used to affect the change?	Who is responsible for ensuring that the plan is carried out?	What data is needed to monitor progress?	What must be done if progress is not as planned?
	PLAN/DO			**STUDY**	**ACT**

Figure 11: Process Improvement Planning Sheet

5.2.2 Benefits of the Process Improvement Workshop

The Workshop framework was piloted in two regional businesses and produced a wide range of immediate process improvement recommendations that were later implemented (Craig, 2001, b):

Process	Improvement Objective	Means
Provision of Sales Information Portfolio	Improve responsiveness of sales negotiator to customer queries of a technical nature	Provide Sales Negotiators with complete contact list in query category sequence
		Provide full technical information portfolio to all Sales Teams
Legal Conveyance	Reduce the number of technically related delays to the legal conveyance process	Establish formalised point of contact and standardised information pack for Company Solicitors
Planning Approval	Improve advanced awareness of new land acquisitions and associated planning issues	Forward proposal to MD to review attendees at land meeting to include more appropriate representation
	Provide enhanced planning layout details for Planning, Land and Engineering	Include requested detail and widen circulation of planning layout report
Costing	Improve team's awareness of key issues	Introduce Technical appraisal handover meeting

In addition a number of longer-term projects were initiated, including the development of a Technical Process Guide.

In order to assess the perceived benefits each delegate was asked to complete a workshop review questionnaire six months after the completion of the second workshop. This was timed to allow a settling period in which initiatives could succeed or fail. The questionnaire (appendix E) was structured such that each element of the Process Improvement Workshop (PIW) was tested (Craig, 2001, b).

A majority of delegates (Craig, 2001, b) found that the workshop had:

- Increased understanding of individual impact on the whole process
- Helped the teams to identify priorities for improvement
- Produced tangible process improvements
- Increased individual motivation

In addition, all delegates agreed that the workshop would benefit the business as a whole if the approach were fully implemented. However, the survey results also revealed that a number of specific issues would need to be addressed prior to wider deployment. Typically these were the more conceptual aspects of the workshop, focusing on the need for ongoing support/facilitation and reference materials. The need for local facilitation/coaching skills was seen as essential.

The trial and subsequent review has demonstrated the potential benefit of the approach, providing a useful mechanism for engaging employees in the improvement of day-to-day activities, which is complementary to the QUAT process. The success of the PIW is further demonstrated by a growing demand for its use throughout the organisation. However, consideration will first need to be given to the design of the original workshop in order to encompass the lessons learned in this trial.

There is a need for in-depth and sustained training in process improvement skills for a core group of facilitators. Once these skills are in place it will be feasible to rollout the PIW with the confidence that ongoing support will be in place.

5.3 Conclusion

This research has provided new insight into the role of, and criteria for, successful employee participation in change activities. The PIW provides a framework that advances internalisation of the PDSA cycle, which is formalised through the introduction of Process Improvement Planning Sheets (PIPS). This provides the foundation for developing and sustaining the *Virtuous Cycle of Employee Participation* (figure 9). Early pilots of the framework have demonstrated increased ownership of processes and long-term objectives, produced tangible improvements to a core business process and increased motivation amongst delegates.

The Headline and Operational Performance Indicators introduced in stages 1 & 2, together with the PIW framework, will help to further develop the Strategy Deployment Maturity of the organisation, satisfying the criteria for stage 3.

6 Stage 4: Feedback to Deployment and Development of Strategy

The first three stages of the *Strategy Deployment Maturity Journey* have put in place the conditions necessary for the organisation to begin addressing the issue of shared purpose. The introduction of Headline Scorecard metrics and Operational Performance Indicators (OPI) has focused the organisation on achieving improvements to the business processes that relate most strongly to the achievement of long-term goals.

The research conducted in each of the preceding stages has been developed to the point of implementation; either fully or through small scale trials. The research conducted for stage 4 of the *Strategy Deployment Maturity Journey* is formative and will take a number of years before full implementation is practical. This research has the objective of building upon the structures presented in stages 2 and 3 in order to:

- Create a business planning and strategy formation process that further deepens organisation-wide focus on strategic (long-term) objectives.
- Introduce increased levels of rigour and learning to the business planning process.
- Extend employee participation to the development and deployment and business plans and targets.

6.1 The role of Business Planning

The effective development of plans and their subsequent deployment is a common denominator for successful change in any organisation (Cowley and Domb, 1997). The issue of shared purpose is key; where plans are developed in isolation, the failure to engage people will result in a lack of understanding, and, consequently, a lack of ownership of objectives (Labovitz and Rosansky, 1997). Stage 4 of the *Strategy Deployment Maturity Journey* draws upon the techniques employed by Hoshin Kanri (see chapter 2) to achieve effective deployment and increased employee ownership of business plans. By adopting such an approach the organisation will be better able to gain a consensus of the most appropriate long-term objectives and hence integrate efforts more effectively towards their deployment (Lee and Dale, 1998). Utilising increased levels of employee participation in this decision-making processes will foster greater strategic alignment, resulting in increased levels of empowerment and intrinsic motivation amongst employees, further reinforcing the Virtuous Cycle of Employee Participation. This is an important factor in fostering the levels of creative thinking and passion for improvement required to achieve Autonomous Innovation (Bessant and Francis, 1999).

The introduction of these advanced frameworks can be considered only when the organisation has reached the advanced level of *maturity* with participative continuous improvement techniques (Akao, 1991). For an organisation such as Westbury, which has progressed only part way along the *Strategy Deployment*

Maturity Journey, this is likely to take a number of years. It is, therefore, helpful to consider the introduction of these techniques in two phases:

Phase 1: The introduction of a rigorous business planning and review framework, that incorporates the PDSA cycle, to both deepen and strengthen the linkages between long-term objectives and operational activities.

Phase 2: The introduction of a participative, top down - bottom up goal setting process.

6.1.1 Phase 1: Developing the Business Planning Process

The business planning process at Westbury currently mirrors that experienced in organisations across many other sectors; once written, plans are filed, rarely used effectively and fail to direct effort sufficiently to the specific processes that must improve if targets are to be achieved (Babich, 1995; Gilmore and Camillus, 1996). If the organisation is to take greater steps towards achieving long-term goals the business planning process must be enhanced in a number of ways:

1. Integrate Headline Scorecard and OPI Metrics with the business planning process

A first step in enhancing the effectiveness of the business planning process is to use both the Headline Scorecard metrics and OPI to guide the formation of plans.

This integration will help focus all management teams on the key long-term goals of the business and target scarce resources towards those processes and activities where it is most needed.

2. Separate day-to-day activities from breakthrough objectives

Hoshin Kanri draws a distinction between two specific business activity categories, helping the organisation to achieve even greater concentration on priorities for improvement (Akao, 1991; Kondo, 1998; Lee and Dale, 1998):

- Those relating to the day-to-day management of the organisation - ongoing activities that must be performed on a daily basis to achieve business goals. These issues constitute 75 – 95 percent of activity.
- Those relating to **breakthrough** (Hoshin) objectives – specific processes or activities where significant improvements must be made in order for the organisation to achieve long-term goals. A maximum of two or three such objectives should be selected that will give rise to plans or specific milestones that can be achieved within the timeframe of the business planning cycle (Cowley and Domb, 1997).

3. Apply PDSA to the business planning cycle

The business planning process should ensure plans are developed and structured with sufficient rigour and depth of detail to clearly define the process(es) through

which objectives will be met and the degree of change that is required (target+means). The Process Improvement Planning Sheet (PIPS) developed in stage 3 proffers a series of elements that guide the development of more rigorous plans; Objective, Means, Target, Owner, Measures of Success and Contingencies (chapter 5.2.1). This provides the foundation for wider adoption of the PDSA cycle, beyond continuous improvement activities, to make it an integral part of the business planning process. In the first instance, this process is particularly useful for the deployment of breakthrough objectives: cascading strategies through to operational plans.

Figure 12 shows how the target-means devised to achieve breakthrough objectives provide objectives for Tier One plans – a process repeated until target-means are devised at an operational level. The introduction of detailed plan elements at each level can be clearly seen. Feedback from each tier is an essential part of the wider adoption of organisation-wide PDSA.

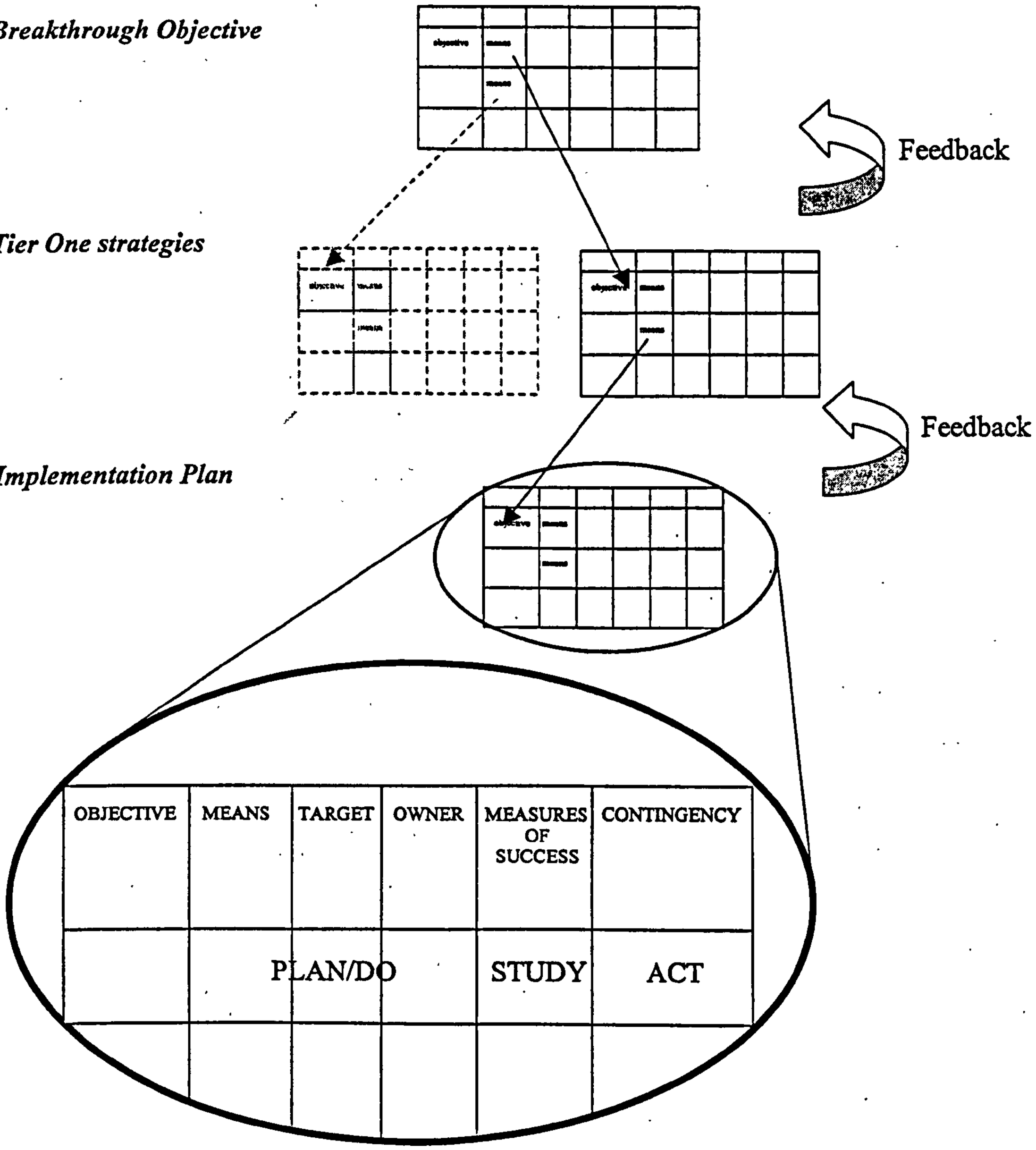

Figure 12: Application of PDSA to Business plan deployment

Once these steps have been achieved and there is confidence that the organisation has reached a degree of maturity, both in this process and in the participative improvement frameworks described in stage 3, consideration should be given to phase 2 of this final stage in the *Strategy Deployment Maturity Journey*.

6.1.2 Phase 2: Extension of Employee Participation to the Business Planning and Deployment Process

Only when the organisation has successfully introduced the changes outlined to the business planning process, and PDSA has become fully internalised, should consideration be given to a strategy for the extension of employee participation to the development and deployment of business plans. The process for participation is Catchball (chapter 2.3), which is a key element of Hoshin Kanri that engages employees in the development of plans and targets. Employees are given an opportunity to consider the implications of targets set by management and to suggest improved/more realistic targets. This represents the final element in the *Strategy Deployment Maturity Journey*.

Whilst Catchball is an easily understood concept, it is far more challenging to implement successfully. A number of steps to implementation should be considered:

1. **Apply to breakthrough objectives:** The Catchball process should focus attention on the successful deployment in those areas selected by the senior management team for breakthrough performance improvements.
2. **Pilot implementation:** This technique should be piloted only in those parts of the organisation that have progressed sufficiently along the *Strategy Deployment Maturity Journey* to enable them to successfully manage the introduction of a participative approach to strategy deployment.

3. **Use trained facilitators:** In the first instance, the help of skilled facilitators will be necessary to guide teams in the application of the Catch-Reflect-Improve-Pass (CRIP) cycle (Craig, 2001, a).
4. **Finalise the business plan:** Only when these stages have been completed should the breakthrough plans be finalised.
5. **Review:** Ensure the PDSA cycle is applied continually at each level of deployment. The review periods should be timed to suit the plan under consideration. However, breakthrough objectives should be achievable within the timeframe of the business plan or key milestones set within it.

6.1.3 Implementation Considerations

Implementation of Stage 4 of the *Strategy Deployment Maturity Journey* is dependent upon internalisation of the key lessons of the preceding stages, in particular organisation-wide application of PDSA. This will take a number of years. However, there are a number of opportunities to pilot some of the less demanding elements of breakthrough planning. To this end the author has submitted a number of briefing papers to the Executive Board for consideration. This has resulted in an invitation to form a small team to consider the requirements for effective business planning and present the case for adoption.

6.2 Conclusion

This formative research his outlined the criteria for successful transition to Stage 4 of the *Strategy Deployment Maturity Journey* and outlines a clear path to implementation through;

- The use of Headline Scorecard metrics and OPI to guide the formation of business plans and hence improve organisational alignment.
- Separation of day-to-day and breakthrough objectives.
- Application of PDSA to the business planning cycle.
- Extension of employee participation to the deployment of targets.

Implementation of these recommendations is under active consideration and it is likely that they will be piloted over an extended period. These trials will form the basis of ongoing research.

7 Summary of Conclusions

The speculative house building industry as a whole has been slow to react to a rapid rise in customer expectations of product and service quality standards. This has been followed by calls from customer groups, industry bodies and successive Governments for wide ranging change. This requires of speculative house-builders nothing less than a complete change in culture in order that they become more customer-focused. However, culture change is not easily achieved, particularly in a mature industry. Organisations need a framework that can guide them to success. In response, the author has developed a four-stage *Strategy Deployment Maturity Journey* for customer focused culture change. The key innovative content of this research is summarised below:

1. **New insight into the applicability of extant change management models to the development of a customer-focused culture:** The use of Mendolwitz's key features of a total quality initiative, to assess the applicability of change management models and the subsequent discussion of literature, presents new insight into the applicability of each model. This discussion highlights how specific aspects of each model can assist in the management of customer-focused culture change. The following observations were made:

   - Organisation-wide focus on long-term goals is an important success factor in successfully deploying strategy.

- A positive relationship exists between;
  1. The use of strategic and process performance measures to communicate and achieve long-term objectives,
  2. The degree of employee participation in determining goals and effecting change and
  3. The effectiveness of a strategy deployment approach.

2. **Development of Headline Performance Metrics and Operational Performance Indicators:** The suite of performance measures developed through this research has applied a systems thinking approach to identify the key attributes of core processes. Many of these processes are common to the sector as a whole. The resulting Headline Scorecard and OPI represent an important development with potentially wider application to help other house-builders to improve their performance.

3. **Identification of the determinants of new-homeowner satisfaction:** This research has provided new insight into new homeowner satisfaction formation:
   - New homeowners have low expectations of product and service quality. However, the number of defects found in a new home has a low correlation with overall satisfaction.
   - Responsiveness to customer complaints and remedial works has greater significance.

4. **Development and application of a model for Customer Satisfaction Measurement:** The development of a Customer Satisfaction Index for the speculative house-building industry represents the first example of such a model explicitly developed to measure new-homeowner satisfaction. The core framework, which details three zones of service across the home selection, purchase and ownership experience has since been adopted by the Housing Forum in their work to introduce the National Homeowner Satisfaction Survey (Housing Forum, 2000). This survey is similar in intent to the J.D. Power Survey conducted to highlight (dis)satisfaction amongst automotive customers.

5. **Development and application of the Virtuous Cycle of Employee Participation:** Through examination of the literature this research has identified the role of, and criteria for, successful employee participation in change interventions; Strong leadership, knowledge, enabling frameworks and feedback of results.

6. **Development and application of a Process Improvement Workshop framework:** The Process Improvement Workshop offers an innovative approach to employee participation in strategy deployment that provides a controlled environment for participation. A pilot workshop revealed the following benefits:

- Increased understanding of individual impact on the whole process

- Enabled teams to identify priorities for improvement
- Tangible process improvements
- Increased individual motivation

This framework encourages the conditions set out for the Virtuous Cycle of Employee Participation. The approach helps to develop cross-functional teamwork in achieving business process improvements in the context of long-term goals. By breaking down functional barriers, the importance of the wider process is raised and both intrinsic-motivation and morale are raised. This approach is applicable to any setting - profit or non-profit.

7. **The Development and application of the *Strategy Deployment Maturity Journey*:** The four-stage journey brings each of these innovations together in a framework for the management of change through the staged development of organisational maturity in strategy deployment:

1. **A Headline Scorecard communicating long-term objectives;** communicate strategic priorities and begin process thinking
2. **Operational Performance Indicators (OPI) that communicate medium-short term strategic intentions;** deepen organisation-wide focus on the performance of core processes
3. **Change through employee participation;** direct and empower employees to effect changes to improve core processes

4. **Feedback to development and deployment of business plans:** extend employee participation to the deployment and feedback further development of strategy.

These four stages present the organisation with a road map to customer-focused culture change, which is applicable to most settings. The *journey* promotes a sense of shared vision through a staged development of a participative strategy development and deployment capability. Westbury Homes has implemented stages 1 and 2 in full and stage 3 has been piloted in a number of regional businesses. Although stage 4 is formative, the Executive Board is actively considering phased implementation.

Where these innovations have been implemented at Westbury and in the wider industry, a number of benefits have already been witnessed. Already the introduction of the Headline Scorecard and OPI metrics have increased organisation-wide focus on making improvements each of the process highlighted by the metrics. Since their introduction in 1997 over 100 registered Quality Action Teams have been instigated, resulting in a wide range of improvements. The introduction of Process Improvement Workshops has benefited the process of change and directly resulting in improvements that demonstrate an increased level of process thinking and customer focus amongst the participants. These improvements have resulted in Westbury gaining an increasing number of awards; including The 'Building Homes' Quality House builder of the year award for 2001.

8 Future Research

Many recommendations have been made as a result of this research and much has been produced of an innovative nature. Importantly, many recommendations have been fully implemented by Westbury. However, a number of opportunities exist for further research:

1. It will be some time before the organisation is able to successfully implement Stage 4 of the *Strategy Deployment Maturity Journey*. Further research is required to ascertain how this can best be achieved. Particular areas of interest include:

    a. Internalisation of continuous process improvement techniques
    b. Application of PDSA to the business planning cycle
    c. A framework for the introduction of Catchball

2. The *Strategy Deployment Maturity Journey* provides the basis for a model to assess the relative maturity of an organisation. Research is needed to develop a framework, which will enable leaders to identify the maturity of their organisation and consequently plan the actions to develop deployment capabilities.

3. The wide ranging use of casual and contract labour for the majority of build processes represents a serious challenge for the business in its attempt to adopt a customer-focused culture. Research is required to develop an extended framework that can effectively integrate these stakeholders into the development and deployment of business plans and targets.

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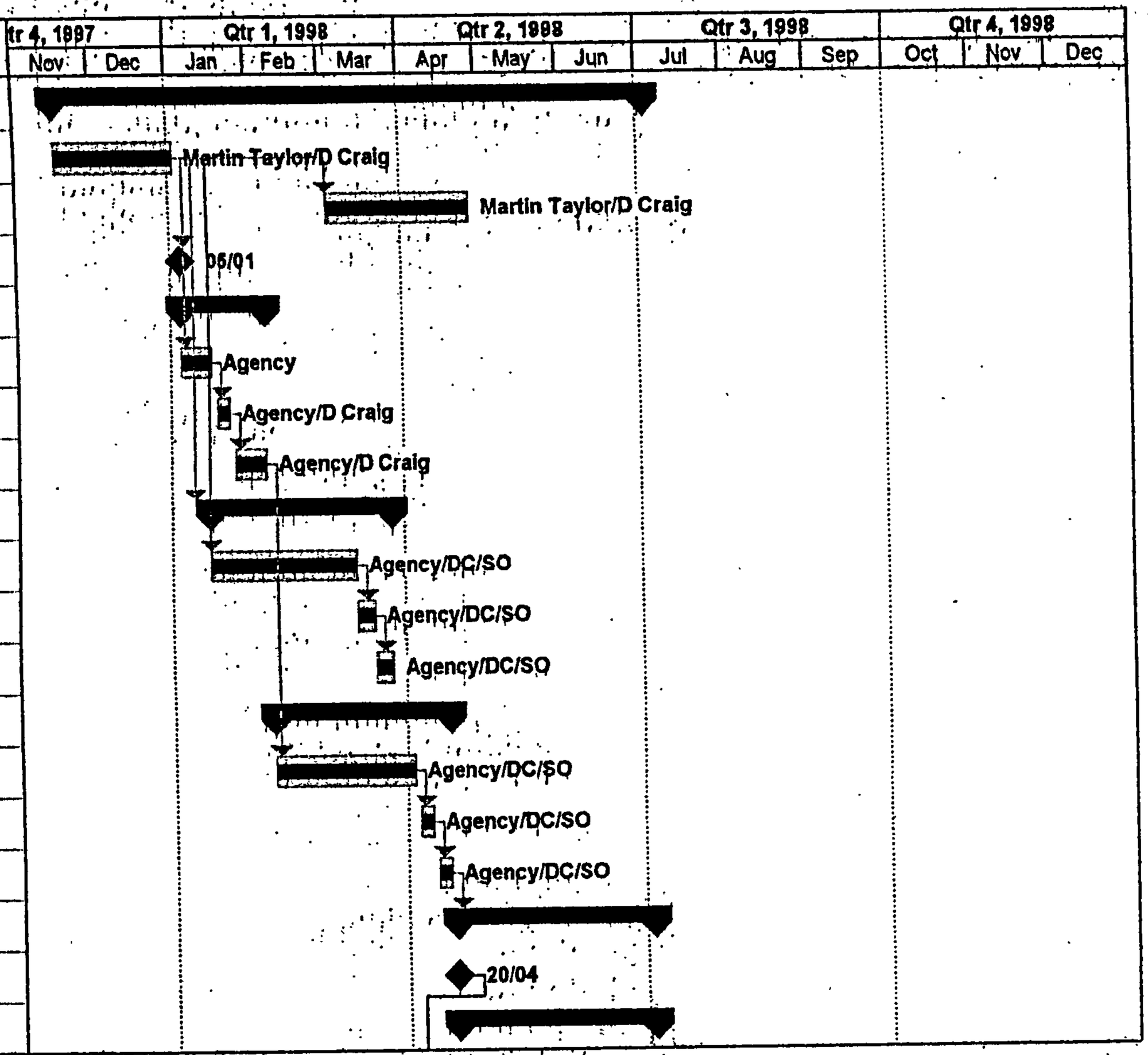
Appendix A: Customer Satisfaction Index Project Planning

ID		Task Name
1		Satisfaction Monitoring
2	✓	Pilot Customer Information System Implemented - Central Region
3	✓	Customer Information System Implemented in Place - Group
4	✓	Reservation questionnaire in place
5	✓	Focus Groups
6	✓	Recruitment & topic guide
7	✓	Interviews
8	✓	Data analysis
9	✓	Pilot 6 week monitor
10	✓	2 week satisfaction monitor
11	✓	2 month trial results report
12	✓	Review
13	✓	Pilot 6 month monitior
14	✓	6 month monitor
15	✓	6 month monitor results & analysis
16	✓	Review
17		Group Continuous Service Improvement
18	✓	Launch Monitoring & Improvement Process
19		Launch Group Monitors

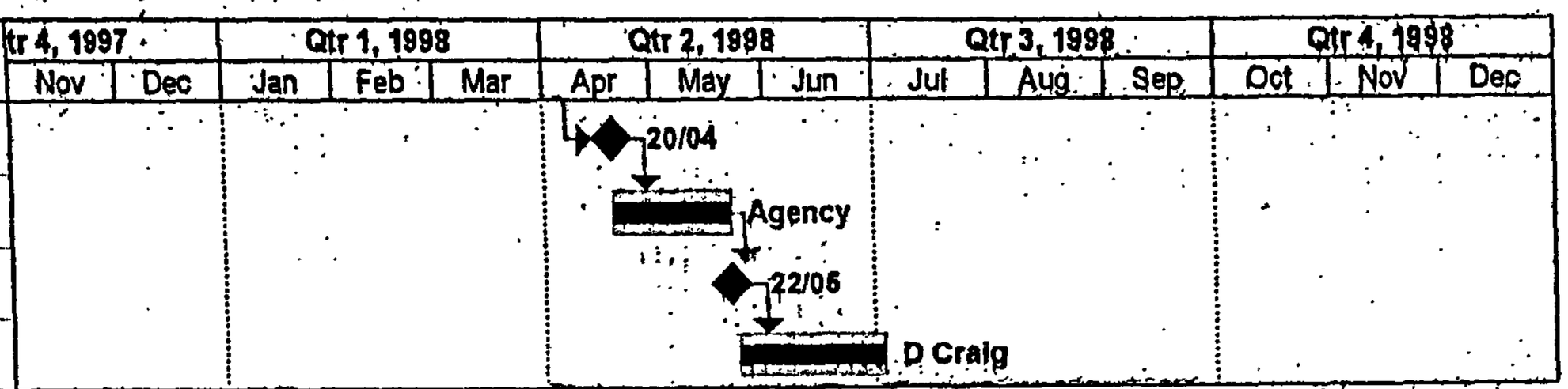


Project: satn01
Date: Thu 27/09/01

Task
Critical Task
Progress
Milestone
Summary
Rolled Up Task
Rolled Up Critical Task
Rolled Up Milestone
Rolled Up Progress
External Tasks
Project Summary
Split
Rolled Up Split

Customer Satisfaction Index Implementation

ID		Task Name
20	✓	Launch Customer Satisfaction Index
21	✓	Analyse first results
22		First report
23	✓	Present results to each Regional Board



Project: satn01
Date: Thu 27/09/01

Task	Rolled Up Task	Project Summary	
Critical Task	Rolled Up Critical Task	Split	
Progress	Rolled Up Milestone	Rolled Up Split	
Milestone	Rolled Up Progress		
Summary	External Tasks		

Customer Satisfaction Index

Pilot and Year One

Cost Schedule

	Jan '98	Feb '98	Mar '98	Apr '98	May '98	Jun '98	Jul '98	Aug '98	Sept '98	Oct '98	Nov '98	Dec '98	Jan '99	Feb '99	Mar '99	Apr '99	May '99	Year one Totals
Pre-requisites																		
Customer details on CIS																		
2wk & 6mth customer data																		
Focus Groups																		
Commissioning	2500																	£2,500
Field work		1875																£1,875
Reporting			1875															£1,875
2 week monitor trial																		
Commissioning	1000																	£1,000
Reporting			1000															£1,000
6 Month monitor trial																		
Commissioning			1375															£1,375
Reporting					1375													£1,375
Launch Group Monitors																		
2 week monitor					£2,250	£2,250	£2,250	£2,250	£2,250	£2,250	£2,250	£2,250	£2,250	£2,250	£2,250	£2,250		£27,000
Quarterly Reporting								£1,000			£1,000			£1,000			£1,000	£4,000
6 Month Monitor					£3,167	£3,166	£3,166	£3,166	£3,166	£3,166	£3,166	£3,166	£3,166	£3,166	£3,166	£3,173		£38,000
Quarterly Reporting								£1,000			£1,000			£1,000			£1,000	£4,000
Monthly Totals	£3,500	£1,875	£4,250		£6,792	£5,416	£5,416	£7,416	£5,416	£5,416	£7,416	£5,416	£5,416	£7,416	£5,416	£5,423	£2,000	£84,000

Appendix B: Customer Information System Defect Code Hierarchy

Problem Code: BP - Bathrooms & Domestic Plumbing

SEQ	TYPE	OPT	DESCRIPTION	A
	P	BP1	Brassware - Taps & Plugs	Y
	P	BP2	Shower Doors	Y
	P	BP3	Sanitaryware	Y
	P	BP4	Shower Equipment	Y
	P	BP5	Leaks	Y
	P	BP6	Water Supply & Pressure Issues	Y
	P	BP7	Bath Panels	Y
	P	BP8	Overflow/Wastes	Y
	P	BP9	Sundry Bathroom/Plumbing	Y
	P	BP10	Kitchen/Utility Sink	Y
	P	BP11	Bathroom Taps	Y
	P	BP12	Kitchen Taps	Y
	P	BP13	Shower Trays	Y
	P	BP14	Pipework Sizing	Y
	P	BP15	Bath Seals	Y

Problem Code: CH - Central Heating

SEQ	TYPE	OPT	DESCRIPTION	A
	P	CH1	Leaking Radiators	Y
	P	CH2	Room Thermostat	Y
	P	CH3	Cylinder	Y
	P	CH4	Immersion Heater	Y
	P	CH5	Fumes	Y
	P	CH6	Boiler	Y
	P	CH7	Misc Central Heating Problems	Y
	P	CH8	Cylinder Overflow	Y
	P	CH9	Programmer	Y
	P	CH10	Kick Space Heater	Y

Problem Code: CJ - Carpentry & Joinery

SEQ	TYPE	OPT	DESCRIPTION	A
	P	CJ1	Staircase Issues	Y
	P	CJ2	Carpentry - Fitting	Y
	P	CJ3	Carpentry - Warping	Y
	P	CJ4	Door Linings/Architraves	Y
	P	CJ5	French Doors	Y
	P	CJ6	Internal Doors	Y
	P	CJ7	Wardrobes	Y
	P	CJ8	Skirtings	Y
	P	CJ9	Kitchen Units	Y
	P	CJ10	Kitchen Utility Room Design	N
	P	CJ11	Kitchen Worktops	Y
	P	CJ12	Sundry Door Problems	Y
	P	CJ13	Door Furniture	Y
	P	CJ14	Loft Hatch	Y

Problem Code: CM - Chimneys

SEQ	TYPE	OPT	DESCRIPTION	A
	P	CM1	Flues	Y

SEQ	TYPE	OPT	DESCRIPTION	
	P	CM2	Chimneys General	

Problem Code: ES - External Services & Utilities

SEQ	TYPE	OPT	DESCRIPTION	
	P	ES1	Inspection Chamber	
	P	ES2	Manhole Covers	
	P	ES3	Blocked Drains	
	P	ES4	Sinking Drain	

Problem Code: EW - External Walls

SEQ	TYPE	OPT	DESCRIPTION	A
	P	EW1	Brickwork, Cracks & Pointing	Y
	P	EW2	Damp Exterior Wall	Y
	P	EW3	Misc. External	Y
	P	EW4	External Facias/Tudor Boarding	Y
	P	EW5	Render	Y
	P	EW6	External Paintwork	Y
	P	EW7	Mould Exterior Wall	Y

Problem Code: FF - Floors & Floorboards

SEQ	TYPE	OPT	DESCRIPTION	A
	P	FF1	Ground Floor - Solid	Y
	P	FF2	First Floor - Timber	Y

Problem Code: GA - Garages

SEQ	TYPE	OPT	DESCRIPTION	A
	P	GA1	Up and Over Doors	Y
	P	GA2	Garage - Back Door	Y
	P	GA3	Garage - Floor	Y
	P	GA4	External Walls	Y
	P	GA5	Roof	Y
	P	GA6	Sundry Garage Issues	Y

Problem Code: HP - Homeplus/Incentives

SEQ	TYPE	OPT	DESCRIPTION	A
	P	HP1	Fireplaces	Y
	P	HP2	Vinyl Flooring	Y
	P	HP3	Curtains	Y
	P	HP4	Carpeting	Y
	P	HP5	Floor Tiling	Y
	P	HP6	Lighting	Y
	P	HP7	Electrical	Y
	P	HP8	Plumbing	Y

Problem Code: IF - Internal Finishing

SEQ	TYPE	OPT	DESCRIPTION	A
	P	IF1	Tiling/Grouting	Y

SEQ	TYPE	OPT	DESCRIPTION
	P	IF2	Painting & Decorating
	P	IF3	Sealant Faults

Problem Code: IR - Ironmongery

SEQ	TYPE	OPT	DESCRIPTION
	P	IR1	Tarnished

Problem Code: IS - Utilities & Internal Services

SEQ	TYPE	OPT	DESCRIPTION
	P	IS1	Water
	P	IS2	Electricity
	P	IS3	Natural Gas & LPG
	P	IS4	Alarms & Door Bells
	P	IS5	Meter Boxes
	P	IS6	Remove Electric Fire
	P	IS7	Lights
	P	IS8	Sockets, Fuses & Supply
	P	IS9	GPO Sockets/Cabling/TV Aerials
	P	IS10	Extractor Fans
	P	IS11	Sundry Issues

Problem Code: MAIN - Problem Areas

SEQ	TYPE	OPT	DESCRIPTION
	MENU	EW	External Walls
	MENU	RO	Roofing
	MENU	WD	External Windows & Doors
	MENU	FF	Floors & Floorboards
	MENU	WC	Internal Walls & Ceilings
	MENU	CJ	Carpentry & Joinery
	MENU	IF	Internal Finishing
	MENU	IS	Utilities & Internal Services
	MENU	BP	Bathrooms & Domestic Plumbing
	MENU	CH	Central Heating
	MENU	WG	White Goods
	MENU	XT	Externals
	MENU	GA	Garages
	MENU	ES	External Services & Utilities
	MENU	HP	Homeplus/Incentives
	MENU	WI	Water Ingress
	MENU	MS	Miscellaneous
	MENU	IR	Ironmongery
	MENU	CM	Chimneys

Problem Code: MS - Miscellaneous

SEQ	TYPE	OPT	DESCRIPTION
	P	MS1	Visit Required
	P	MS2	Missing Keys
	P	MS3	Cleanliness
	P	MS4	Compensation

SEQ	TYPE	OPT	DESCRIPTION
	P	MS5	Query
	P	MS6	Sundries
	P	MS7	Reimbursement for Incent. Pay
	P	MS9	Infestation

Problem Code: RO - Roofing

SEQ	TYPE	OPT	DESCRIPTION
	P	RO1	Tiles/Ridges
	P	RO2	Guttering & Drainpipes
	P	RO3	Flashing
	P	RO4	Sundry Roofing Issues
	P	RO5	Insulation

Problem Code: WC - Internal Walls & Ceilings

SEQ	TYPE	OPT	DESCRIPTION
	P	WC1	Alignment
	P	WC2	Artex
	P	WC3	Plastering Other
	P	WC4	Shrinkage & Cracks
	P	WC5	Blown Tapes
	P	WC6	Damp Interior Wall
	P	WC7	Mould Interior Wall

Problem Code: WD - External Windows & Doors

SEQ	TYPE	OPT	DESCRIPTION
	P	WD1	Fitting
	P	WD2	Mechanism Issues
	P	WD3	Frame
	P	WD4	Glazing Scratched/Cracked
	P	WD5	Damage
	P	WD6	Patio Doors - Sundry Problems
	P	WD7	Window Sundry
	P	WD8	Vent Issues
	P	WD9	Timber Windows
	P	WD10	Front Door - Problems
	P	WD11	Back Door - Problems
	P	WD12	Ironmongery External

Problem Code: WG - White Goods

SEQ	TYPE	OPT	DESCRIPTION
	P	WH1	Oven & Hob
	P	WH2	Other Appliances

Problem Code: WI - Water Ingress

SEQ	TYPE	OPT	DESCRIPTION
	P	WI1	Roof
	P	WI2	Chimneys
	P	WI3	Garage

SEQ	TYPE	OPT	DESCRIPTION
	P	WI4	Windows
	P	WI5	Walls

Problem Code: XT - Externals

SEQ	TYPE	OPT	DESCRIPTION
	P	XT1	Fences & Gates
	P	XT2	Landscaping
	P	XT3	Drives & Driveways
	P	XT4	External Tap
	P	XT5	Patio & Paths
	P	XT6	Outside Lights
	P	XT7	Air Vent Damage
	P	XT8	Porch
	P	XT9	Sundry Issues
	P	XT10	Estate Completion Issues
	P	XT11	Drainage Drives
	P	XT12	Conservatories
	P	XT13	Poor Drainage Garden
	P	XT14	Storm Damage
	P	XT15	Open Space

Appendix C: Process Mapping Pro-Forma

PROCESS TASK DESCRIPTION

LIST ALL INPUTS TO THE TASK

TASK DESCRIPTION

LIST ALL OUTPUTS FROM THE TASK

Appendix D: Pre-Development Planning Schedule (PDPS)

LAST UPDATED ON :- 27/07/2000

		DEPT	STD CYCLE DATES	Hanover Street Gloucester DUE	ACTL	DUE	ACTL	DUE	ACTL	DUE	ACTL	DUE	ACTL	DUE	ACTL	DUE	A
	LAND - PHASE 1																
1	All Departments Advised of Land Purchase	L	WK1	3	13												
2	Land acquisition signs to be erected	S	WK1	6	6												
3	Land Handover Meeting, attended by: Technical ABM & ASM	L	WK3	6	6												
4	Planning Layout (initial design concept) prepared and circulated prior to LRM Circulation: All Directors ASM & ABM	D	WK5	8 8 8	8 8 8												
5	Comments received from ABM & ASM Wednesday prior to LRM	B / S	WK5	8	8												
6	Layout Appraisal Meeting (including EPS96)	D	WK5	8	8												
7	Amendments incorporated and layout re-circulated (info only)	D	WK6	9	9												
8	Costed Layout	C	WK6	9	9												
9	Layout Appraisal and authorisation	D	WK7	10	10												
10	Initiate S106/Legals (if reqd)	L	WK7	10	10												
	PLANNING - PHASE 2																
11	PR and lobbying plan	D	WK7	10	10												
12	Social Housing (if any) strategy agreed	D	WK7	10	10												
13	Pre-application meeting with planners	D	WK7	10	10												
14	Planning Application	D	WK7	10	10												
15	ASM to assess signage requirements	S	WK8	11	11												
16	Orders placed for site signage	S	WK8	11	11												
17	Initial Notice Application	D	WK9	12	12												
18	Timing of 'Coming Soon' Boards	S	WK10	13	13												
19	Sales Centre identified and order placed	S	WK10	13	13												
20	Site Services Application	D	WK11	14	14												
21	ABM & ASM to identify Site/Sales personnel	B / S	WK11	14	14												
22	Day to day Showhome Build Programme circulated from ABM	B	WK11	14	14												
23	Sales Cabin position and Show area proposals prepared	S	WK11	14	14												
24	Strategy Plan meeting - to be held on site - Technical, ABM & ASM																
25	Suggested Agenda a) Build Direction	D/B/S	WK11	14	14												
	b) Showhomes/Sales Cabin	D/B/S	WK11	14	14												
	c) Extent of Siteworks i.e. phasing	D/B/S	WK11	14	14												
	COSTING - PHASE 3																
26	Heath and Safety Meeting																
27	Tender Process (ABM to advise of any abnormals)																
	a) 60 Day programme issued	B	WK1														
	b) Contractors Identified for inclusion	B / C	WK11	14	14												
	c) Tender Process Started/Portfolio issued	D	WK12	15	15												
	d) Tenders Received	C	WK14	17	17												
	e) Contractor Appointed	B / C	WK15	18	18												
28	Full Building Regulation Application	D	WK12	15	15												
29	Site Services 'cheques' issued?	D	WK12	15	15												
30	Showhome Complex meeting	B / S	WK13	16	16												
31	ABM to initiate Site set up i.e. Site Office/Welfare/Fencing etc.	B	WK14	17	17												
32	Site Project and CDM file issued	B	WK14	17	17												
	PRE-START - PHASE 4																
33	Officer Recommendation Achieved	D	WK15	18	18												
34	Plot Pricing Strategy	S	WK15	18	18												
35	Siteworks Portfolio (including specification) issued	D	WK15	18	18												
36	Houseworks / Sales Complex Portfolio issued	D	WK15	18	18												
37	ASM to place order for Site Plan Brochure	S	WK15														
38	Pre-construction meeting (technical to operations)	D	WK15	18	18												
39	Sales Cabin Groundworks and Landscaping orders placed	S	WK16	19	19												
40	Planning Consent issued and S106 completed	D	WK17	20	20												
41	Building Regulation Approval Notice circulated	D	WK17	20	20												
42	Interior designer identified and appointed	S	WK17														
43	Order placed for Sales Centre - (IDS) - Showhouse Complex	S	WK17	20													
44	Section 38 and 104 Applications made	D	WK18	21	21												
45	Planning Approval Notice circulated	D	WK18	21	21												
	SITE REMEDIATION - PHASE 5																
46	ABM to advise local residents of potential disruptions	B	WK18	21													
47	**Regional Board start approval and EPS 97**	B	WK18	21													
48	Site Services meeting	D	WK 18	36													
49	Pre-start meeting held (pre-phase)	B	WK18	21													
	Temporary site preliminaries established	B	WK19	22													
	Boundaries secured	B	WK19	22													
	Demolition completed	B	?	?													
53	Site remediation completed	B	?	?													
54	Costings portfolio issued	C	WK15	18													
	PRODUCTION SET UP - PHASE 6																
55	Site start (Fully remediated site)	B	WK19	22													
56	Siteworks - Phase I (establish link to production areas)	B	WK22	25													
57	Permanent site prelims established	B	WK22	25													
58	Sales Centre in position	S	WK22	25													
59	Conditions Discharged	D	WK23	26													
60	Kitchen/Sanitary Wall/Tile choices to ABM	S	WK23	26													
61	Orders placed for Site Sales Set up	S	WK23	26													
62	Technical Approval	D	WK24	27													
63	Housetype Brochures checked / PMA Stamped	D	WK27	30													
64	Showhome opening event planned	S	WK28	31													
65	**Sales prices released (EPS 98)**	D	WK29	32													
66	Sales Cabin removed and area re-instated	S	WK31	34													
67	Showhome service connections	D	WK32	35													
68	IDS to fit out Sales Office	S	WK33	36													
69	Conformity of Sales Office and signage checked	S	WK34	37													
70	ABM and ASM to snag Showhome (Stage 8)	B / S	WK34	37													
71	Sales Complex Handover from Building	S	WK35	38													
72	Interior Designers merchandising	S	WK35	38													
73	Remaining Site signage erected	S	WK35	38													
74	ABM & ASM review Showhomes prior to opening	B / S	WK35	38													
	SHOWHOME ACCEPTANCE - PHASE 7																
75	Directors Showhome Review	ALL	WK35	38													
76	Showhouse opening	S	WK36	39													
77	First CASH-IN	S	WK38	41													
78	S38 / 104 Agreements in place	D	WK47	50													

Circulation : Reg. Dir's, Snr.Mgrs

NOTES FOR PDPS IN USE

PRE-DEVELOPMENT PLANNING SCHEDULE IN PRACTICE

- The schedule is intended to be the fore-runner of an integrated 'phase claiming' system similar to the production planning system (stage claiming).

- There is one PDPS for each Area Team (approx 3 per Region).

- The site names within the area are entered into a blank column when identified (can be pre-acquisition).

- The managers within the Area Team review the due dates (using the standard cycle as a guide but taking account of the site idiosyncrasies).

- The schedule is circulated as shown on a monthly basis (minimum) or when a new site is added.

- A person within the area team is nominated as the 'chaser' and the same person then takes ownership of the 'exception' reporting to the Board.

- As actual dates are hit they are entered into the column alongside the task due date.

- As each task is completed the due/actual dates are then coded green.

- If a due date is missed the due/actual dates are coded red.

- The rest of the dates in the column are reviewed and if the delay causes a knock-on-effect to tasks down the column the cells affected are coded amber as an alert.

- The person nominated to monitor the schedule attends a monthly Board meeting and discusses the implication of the 'exceptions'.

- The Regional Board review it's plans for the site and initiates corrective action or revises the plan.

- The Regional Board review the implications and identify contingency opportunities.

- The revised actions are communicated to all concerned.

- The Regional Board may wish to revise the plan for the site comprehensively - suggest once per quarter (Wk 12) for following quarters budget.

Appendix E: PIW Review Questionnaire

Dear

Re:Process Improvement Workshop Trials

You will recall throughout the past year, along with your colleagues, you took part in a series of Process Improvement Workshops. As was explained at the time, you were the first group to take part in these workshops. Your cooperation was an important factor in helping me evaluate the effectiveness of this approach in helping to improve the ability of all involved to deliver improved service.

An important part of any trial is to monitor its performance and then review performance before considering widescale adoption (PLAN-DO-CHECK-ACT!). To help me in this assessment,I would be grateful if you would complete the attached questionnaire and **return it to me via Andrew Searle by Friday 29th June 2001.** Your answers will help me decide whether or not changes are required to the structure or content of the woorkshops and whether or not the Process Improvement Workshop would benefit other teams throughout the Group.

I hope you found the exercise useful. Thank you for your continued cooperation

David Craig
Group Quality Manager
(enc)

Please consider the following statements and indicate how strongly you agree or dissagree in each case..

The Process Improvement workshop helped to...	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1. Improve your understanding of the role you play in the whole 'site support process'					
2. Improve you to understanding which internal customers rely upon your work					
3. Identify specific customer needs.					
4. Highlight the impact that your work has on the ability of internal customers to perform their own tasks					
5. Fully understand the whole 'site support process'					
6. Identify specific priorities for improvement					
7. Gather all available facts before acting					
8. Identify the true cause(s) of particular problems					
9. Conduct and evaluate trials before considering full implementation					
10. Improve your personal and team performance					
11. Improve personal motivation					

Process Improvement Planning Sheets

At the end of the second workshop and during following activities you were asked to complete Process Improvement Planning sheets for each task.

How effective were these sheets..

	Completely ineffective	Inneffective	Niether effective or inneffective	Partly effective	Very effective
1. In helping you to clarify task objectives					
2. In helping to agree specific targets (ie how much and by when)					
3. In ensuring everyone understood how the target would be achieved (the means/methods)					
4. In identifying what control data would be used to monitor trials					
5. In establishing clearly identified Owners for each task					

	Definitely not	Probably not	Probably	Definately
1. Do you think that the Process Improvement Workshop would be of benefit to the whole Company				

Please indicate wether you feel there needs to be more or less of each element below. Please add any comments you wish to make (use the back sheet if you need more space).

	Less	OK	More	Comments
1. Overal duration of the workshop series				
2. Excercises conducted in preparation for each workshop				
3. Exercises conducted during the workshop				
4. Materials supplied for use during the workshops and pre-workshop exercises (forms, questionnaires, guidance)				
5. Materials supplied for reference following completion of the workshops				
6. Theoretical elements • Joiner Triangle • PLAN–DO-STUDY-ACT cycle • Problem solving techniques				
7. Support throughout the workshop				
8. Ongoing support				