CHAPTER I

INTRODUCTION AND DESIGN OF THE STUDY

I. Problem Statement

Paradigm Shifts in the practice of Management: From Local Maximization to Global Optimization

A review of the history of development of management theory from the early part of the 20th century up to today shows two clear stages:

- The first from the beginning of the century till about the 80s
- The second thereafter.

The earlier stage is distinguished by considerable and varied theoretical work in the different functions of management, building on extensive empirical studies to support, negate or modify theory.

The later trend has seen various efforts to build ‘integrative’ or all-encompassing management models, which seek to explain how different managerial functions come together to result in the ‘successful’ organization – one that survives, grows and enhances shareholder value.

As the Industrial Revolution developed along with inventions of many different types of machinery, it was inevitable that management theorists’ attention was initially in the Production function. Thus it was that the body of work generally known as ‘Scientific Management’ emerged, with its emphasis on Time and Motion studies and Industrial Engineering. The
initial neglect of the human factor resulted in work concurrently in the areas of Organization Behaviour – theories of motivation, structural design of management, conflict resolution etc. Work in Marketing covered areas as Product Policy, Pricing, Advertising & Promotion, Physical Distribution and Sales Management. Developments in Finance centered on working capital management and capital allocation and pricing models, apart from the Treasury Function. World War II and thereafter saw considerable advances in Operations / Production Research – the use of formal quantitative models which were applied initially in production and subsequently in areas such as Marketing & Finance. Quality & Reliability became subsequent issues of concern and quantitative techniques especially statistical ones such as sampling came to be developed. Post war development in Japan was heavily biased towards the twin areas of QA and manufacturing.

As can be seen, each of the above theoretical constructs dealt with one fraction of the management process, without being prescriptive of the rest of the science. It was therefore entirely possible for an organization to be excellent in one functional area and below average in others, leading to its ultimate loss of identity.

Theories of the encompassing whole were therefore the logical development – in areas such as planning of management structures, information and control systems, strategic planning or corporate planning. These theories borrowed heavily from military science, viewing business as war. By and large such theories prescribed little or nothing towards
individual functions. The preoccupation with grand strategy led to the emergence of the highly diversified conglomerate transnational. Nevertheless, while excellent operating results were achieved under specific conditions, sustainability of such results were not guaranteed. In this respect the late 70s / early 80s can be viewed as the watershed years.

The post-watershed period has been remarkable for the shift in management dialectic. The worldwide rhetoric of globalization and perestroika has seen to it that prime theoretical concerns continue to be with managing the whole organization, but without losing sight of the constituent parts. The shift in emphasis however is in considering not just the traditional functional classifications such as Production or Marketing, but, which retaining the validity of the appropriate usage of relevant techniques, now places a hitherto unrecognized emphasis on 'processes'. It is these theories, which are referred to 'integrative models'.

The earliest of these models, which evolved out of thinking in the area of Finance is Zero Based Budgeting and Management by Objectives. Both of these were very popular at one time but soon lost favor due to inherent shortcomings. From Information Technology and Production Management evolved computerized models on Materials Requirement Planning (MRP), which, as the name denotes, is restricted in scope but has since enlarged its scope to become Enterprise Resource Planning (ERP), which is today very much a fancied model. Parallel there has emerged the concept of Business Process Re-engineering. From the QA field has emerged the Total Quality
Management (TQM) Model. The Maintenance function has developed the concept of Total Productive Maintenance (TPM), which is comparatively much newer compared to the TQM system. In the last 20 years however the TQM model has refined itself and today the pinnacle of TQM achievement is epitomized by the Malcolm Baldrige Award, the Deming Prize, the European Forum for Quality Management (EFQM) Award and the CII-EXIM Award for Business Excellence. The TPM model is very much a Japanese centered approach, advocated and administrated by the Japan Institute of Plant Maintenance (JIPM). The American Company Motorola had initially been rather single handedly advocating the Six-Sigma Quality Model. There are also the ISO 9000 & 14000 systems. What is significant about these models is that they are very much process and systems oriented across what they may consider as the Key Result Areas for the generalized business (or even non-business) organization. As such, properly understood and implemented they also promise performance in terms of the achievement, by the implementing organization, of its defined business goals.

Given the increasing levels of globalization, (& in the Indian context of liberalization with its concomitant exposure to international competition) intensifying levels of competition and the loss of the traditional forms of protection, business organizations are finding it extremely difficult to even retain identity. Merely good or even excellent product quality along with competitive pricing is not sufficient, as many Japanese firms have learnt. Interest in the integrative models of management is at an all time high and
the Companies that are seriously implementing one or the other model include Hewlett - Packard, Motorola, Toyota, ICL, Maruti Udyog, Sundaram Clayton, Sundram Fasteners, Birla Tyres, Hindustan Lever etc.

The point of interest is that these models promise measurable results and the implementing organizations have been at it now for 10 – 15 years. While some have won publicly highly acclaimed competitive awards, even the other participating but non prize winning entities have claimed significant progress.

II. Relevance of the Research

The study derives its importance from the challenges of a world that is fast unifying and becoming borderless. As a result businesses, which were hitherto operating behind the closed walls of domestic protection have been finding that competition can, and now does, emerge from any part of the world. American and European firms have for long been used to operating in any part of the world and their domestic markets have also been open to each other and Japanese, Korean and Taiwanese firms. In the process they have been forced to face up to varied management approaches initiated by the newcomers.

For a large part established Western business has had the luxury of time in responding to these challenges. It is a different matter that many chose not to respond and therefore went under. Others chose to evolve their own responses and have managed to survive and in some cases even thrive.
For Indian business the challenge has been quite different. From a very open economy with a sizable foreign exchange surplus at the end of World War II, the politico-bureaucratic complex decided to move into a closed economy model with a thrust on import substitution and various restraints on business. As a result Indian business lost its capacity to compete and its core competency became the management of the licence-permit raj. With the foreign exchange crisis of 1991, and the subsequent unfolding of WTO, the economy had to be opened up and Indian businesses had to suddenly acquire new skills to survive. The skills required were both in the technical and managerial areas.

Managerial skills, techniques and approaches were adopted wholly from foreign practice. On the fringes of the management debate in India there have always been a few who have been advocating an Indian approach to management (derived from the Vedas or the Bhagvad Gita) as opposed to a Western or a Japanese one, but this viewpoint has not proceeded beyond advocacy to theoretical formulations.

The present study analyses application of the five most popular imported models of management in the Indian context. We study the theoretical framework of each of these models, the rigor of implementation, the problems faced, the results achieved and point the way to a new model. The study is timely and relevant not only to Indian industry but also to business in any emergent economy.
III. Scope of the Study

The Study examines the relevance, usefulness and the validity of the following five models as applied in India:

The ISO 9000 Model
The BPR Model
The TPM Model
The TQM Model
The ERP Model

Companies studied are a mix of large and small, Indian and subsidiaries of foreign companies operating in India. All attempts at model implementation studied are post 1991, as a response to various challenges thrown up either in the domestic or international markets or both.

IV. Objectives of the Study

To study and understand the theoretical underpinnings of the integrative models, their points of departure from the functional models, their respective strengths and theoretical drawbacks.

Case studies of Indian experiences in the implementation of these models; factors that influenced the adoption decision, rationale for the specific choice, the implementation experience and end results.

Study successful implementation and its effects on retention of identity (survival) and growth.
Examine Mortality of the implementation and sustainability.

To establish the factors that pre-dispose successful implementation.

Predict competition and equilibrium among the best in class.

V. Background: Developments in Strategic Management

In a comparison of U.S. and Japanese auto firms, researchers found that managers’ activities were the major source of productivity differences (Lieberman, Lau, and Williams, 1990). One of the key management activities in the emerging paradigm is strategic management.

The Growing Role of Strategic Management

As Figure-1.1 shows, planning approaches include simple budgeting, forecast-based planning, externally oriented planning, and comprehensive strategic management (Gluck, Kaufman, and Wallach, 1982). As managers found themselves in ever more complex and turbulent environments in the 1960s, their internally oriented, reactive approach gave way to an open systems view that required more external analysis and planning. By the 1980s, strategic management evolved from long-range planning by addressing strategy implementation as well as strategy formulation. Today, managers practicing strategic management attempt to create their organization’s future. To do so, they must analyze both the internal and external situations in a well-defined strategic framework, and develop and
manage value-creating processes and organizational cultures. The focus on customer value becomes the basis for strategic management.

**Figure-1.1: Types of Planning**

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<th>Strategically Oriented</th>
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<td>Value System</td>
<td>Meet Budget</td>
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Strategic management is the process managers use to formulate and implement strategies for providing the best customer value that will achieve the mission of the organization. Strategic management includes the analysis and major long-term decisions of strategy formulation as well as the short-term actions that implement the strategy through integrated annual action plans, policies, corporate culture, and ongoing attention to strategy and systems. While all managers should think and act strategically, most managers cannot dedicate their time solely to long-range planning. As owners of key processes, their role is to develop and improve these processes in relation to the other systems of the organization to create value and improve the organization’s capabilities.

Although strategic management has generally improved firm performance (Rhyne, 1986; Fredrickson, 1984), even this modern approach has sometimes failed to satisfy
customers and stakeholders as global competition has emerged (Pearson, 1992). During the 1970s and 1980s, Japanese firms changed the competitive front and the determinants of success in many industries by making quality a strategic imperative. Now, to compete in Europe, firms must meet the requirements of International Standards Organization (ISO-9000), a series of operating standards for products, services, quality systems, etc., that managers use to standardize quality systems throughout their firms.

These changes have made managers at all levels of many profit, not-for-profit, private, public, manufacturing, and service organizations increasingly aware of the strategic importance of relentless quality improvement. In the last few years, many of the principles of quality management overlapped or replaced principles of management and strategic management. For example, popular concepts of customer satisfaction, continuous improvement, benchmarking, cycle time, and teamwork are closely related to strategic concepts such as mission, objectives, environmental analysis, strategic choice, motivation, and corporate culture. These emerging principles have focused managers on a new management paradigm involving leadership, organizational learning, core competences, firm architecture, and time based strategy.

The emerging paradigm emphasizes continuous improvement of customer value in every aspect of strategy formulation and implementation. Improving customer value requires a cross-functional approach to learning what is and will be valued, designing value, producing value, and improving the value-creating and delivering systems. Thus, continuous improvement of customer value becomes the basis for the firm’s overall strategy.
Defining Strategy

There are many ways of looking at strategy\(^1\), and managers typically engage in several types of strategic formulation. As used in business, grand strategy refers to a firm’s coordinated and sustained efforts to achieve its long-term goals. For example, Tisco’s grand strategy has relentlessly pursued market penetration and market development. Although grand strategy refers more to top managers’ deliberate, intended plan on action, a grand strategy can usually be inferred from the pattern of managers’ activities in an organization.

A firm’s grand strategy helps define an overall approach to growth, but it does not necessarily reflect the most fundamental basis on which an organization competes. The concept of generic strategy refers to achieving either the lowest total delivered cost or a highly differentiated offering with either a broad or narrow market focus (Porter, 1980). There are four generic strategies; broad low-cost, broad differentiation, focused low-cost, and focused differentiation. According to Porter, using one of these strategies can enable a firm to achieve superior competitive position and sustainable competitive advantage, while being “stuck in the middle” of an industry with no clear advantage lowers performance. For example, Food-World’s growth in retailing is based on broad low-cost through superior distribution, inventory management, and employee involvement. Nilgiris has differentiated its relatively upscale department stores with premium brands. Reebok stores target specific

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\(^1\) Since Chandler (1965) first applied the concept of strategy to business, various approaches have defined strategy as an overall plan, as a pattern of activity in an organization, as the position of a firm in a competitive environment, or simply as the perspective or character of an organization. Following Mintzberg and Waters who distinguished realized strategy as more important than intended plan, Thompson and Strickland defined strategy as the “pattern of organizational moves and managerial approaches used to achieve organizational objectives and pursue the organization’s mission.”
niches with high-value trendy fashions. On the other hand, Bata has found itself stuck between the unorganized sector, specialty stores, and upscale department stores. The best-performing firms often achieve both low-cost and differentiation through highest relative quality and other factors (Galbraith and Schendel, 1983; Miller, 1987). These results are consistent with many experts’ prescriptions concerning quality improvement as the most important source of competitive advantage (Deming, 1986; Imai, 1986; Ishikawa, 1985).2

Specifying the grand and generic strategies is only part of the manager’s approach to the market. As part of their competitive strategy, managers in every firm have an implicit value strategy. A value strategy is the pattern of decisions and actions that constitute the firm’s overall approach toward providing realizable net value to customers. But when managers focus on continuously improving customer satisfaction, they need more than an unintended, implicit value strategy. As Deming (1986) suggested, this strategy should be explicit and grounded in the mission and culture of the firm. This becomes a customer value-based strategy. A value-based strategy directs managers to take responsibility for (1) delivering products/services that provide best value for defined needs, and (2) creating strategic systems to continuously improve that value and satisfy the obligations of the enterprise (Carothers and Adams, 1991). Generic strategy specifies the firm’s emphasis on cost or differentiation. Grand strategy specifies how the firm will develop its market, grow, or retrench. The explicit value strategy identifies the specific customer needs and

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2 Achieving best quality by statistical management of systems and empowerment of people often results in lowest delivered cost as redesign, scrap, rework, field failures and customer complaints are eliminated. Further, superior quality leads to repeat purchases and and differentiation based on customer satisfaction. The combination of lowest delivered cost and highest quality usually provides best value to consumers hinshitsu “things gone right”). World-class Japanese firms (kaisha) provide best value with synergistic combinations of knowledge-based strategies, alliances, and productivity based strategies (Smothers, 1990). These are sequentially deployed to penetrate and develop markets.
dimensions of value that the firm will satisfy. Thus, the complete statement of a firm’s overall strategy will include and internally consistent combination of its value-based strategy, generic strategy, and grand strategy.

Wal-Mart, Disney, Lincoln Electric, Motorola, and the leading Japanese car makers provide familiar examples of value-based strategies in which all systems are designed to maximize and improve customer satisfaction. Wal-Mart retains Sam Walton’s stated intent to continuously improve customer value with everyday low prices on name brands to an ever-expanding market. Disney’s films, theme parks, and consumer goods provide best-value family entertainment. Lincoln Electric has continuously improved quality and lowered the cost of its electric arc welders, the finest in the world. Motorola continuously improves the value of its cellular phones by making them smaller, reducing their cost, and improving performance. Japanese car makers have gone beyond basic quality requirements (atarimae hinshitsu - “taken for granted”) to design cars that fascinate and delight customers (miyokuteki)

The Emerging Paradigm and Strategic Management

In the emerging paradigm, managers base strategy on continuously improving customer value. Many of the principles for implementing this approach may apply universally to all organizations and settings (Schonberger, 1992). Results from 320 studies showed that improving key customer value variables such as product/service quality, R&D,

\[^3\) Many managers think their situation is unique. Other managers believe in a set of universal principles- the BCG, the SPACE or GE matrices, the learning curve, the PIMS market share ‘laws’ etc. In the contingency approach, the current framework for strategy depends on the organisation’s competitive setting as defined by a number of variables.

13
and social responsibility nearly always enhanced profitability, growth, and financial stability (Capon, Farley, and Hoenig, 1990). International research on quality practices indicates that explaining the strategic plan to employees, customers, and suppliers, improving and simplifying production and development processes; and shortening cycle times consistently benefit every organization (Fuchsberg, 1992b). But some quality practices such as benchmarking may be helpful only to firms with good leaders who know how to use such advanced techniques. Thus, an explicit value-based strategy focused on customer value may be required, but the actual implementation process may depend on organizational size and competitive position. In short, the emerging paradigm enhances the strategic management process by focusing managers on customer needs.

Customer value, as the central driving force for strategic management, is a necessary condition for success. Since maximizing customer value requires total organizational commitment to excellence, quality, and satisfaction for all stakeholders, customer value may also be a sufficient organizing strategy for many firms.

Strategic Management of Customer Value

Traditionally, the strategic management process has attempted to answer four basic questions; Who are we? Where are we now? Where do we want to be? How are we going to get there? Most models of the process take a broad view of stakeholders, and are competitor-driven rather than customer-oriented. With the focus on customer value, the basic questions change; For what customer need do we take responsibility? How can we

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4 There are at least three views of strategic management, none of which focus explicitly on customer needs. Linear flowchart models picture a rational, analytical approach to management decision – making. The intuitive/inductive approach emphasizes less analytical, more informal and incremental decision making. In the political/behavioural approach, power and influence form the basis for decision making.
provide best value to satisfy that need? and What can we expect in return? Given an organization in a complex environment, the strategic management process includes eight activities:

1. Defining the business in terms of management's vision, philosophy, values and goals for meeting specified customer needs.

2. Assessing external opportunities and threats to improving customer value.

3. Assessing internal value capabilities, resourcefulness, and weaknesses.

4. Defining a key problem and strategic issues from the environmental analyses.

5. Identifying strategic alternatives in terms of long-term objectives and grand strategies.

6. Choosing one of the strategic alternatives.

7. Developing annual objectives, allocating resources, and implementing short-term plans.

8. Monitoring and improving customer value and value-providing systems.

**Defining the Business**

Three things taken together provide the basic motivation for all employees and help focus efforts and resources on customer satisfaction: mission or vision, corporate values and philosophy, and long-term goals. The mission should describe the organization's current
purpose in terms of what the organization will do over the near term. This statement should set the organization apart from those serving the same customer need. A vision statement outlines what purpose managers want the organization to serve over the long term and what the organization should become. Some organizations have both, some one or the other; only rarely does either include financial aspects. Mission and vision statements focus management efforts and provide the most basic, unifying logic for all stakeholders. Corporate values and philosophy state the principles that guide how the organization will do business. Long-term goals specify broad directions managers will take to fulfill the mission.

**Writing a Mission Statement**

Mission statements, especially those at the business level, define the domain and intent of the firm’s activities. The mission outlines the specific need the firm’s product or service meets, the market served, and the technology used to meet the needs of that market. In some firms, top management may define the business in terms of the firm’s core products, core technologies, or core competences (Prahalad and Hamel, 1990; Reimann, 1992).

A core product is simply the product or service that the customers value most. A core product may be a key component, which is protected by patent or proprietary position. Core products often carry the largest gross margin. A core competence is a distinctive competence that is a key means of providing value because it adds to the perceived benefits that customers accessible, and it is usually difficult to imitate. For example, Wal-Mart’s success is based on the core competences of logistics and human resource management. A core technology is that combination of know-how, hardware, and software that is basis of a core competence. The 3M company focuses on its core technologies in coatings and adhesives to make 50,000 different products; perhaps its greatest core competence is
innovation management. Lincoln Electric defines itself in terms of a core product, the best electric arc welders in the world, but its leadership is based on the core competence of employee motivation.

**Using Market Opportunity Analysis to Define the Business**

Managers wanting to define or refocus their firms’ mission and vision on current or potential customers’ needs, wants, and values need to use a systematic approach to market segmentation. Market opportunity analysis (MOA) is a formal methodology that assesses macro-environmental trends, customers, competitors, and distribution channels in order to focus on the needs of a market segment. Finalizing an organizational mission or vision is usually a learning process among managers and employees. The task is to agree on a fairly short, simple statement that everyone internalizes. The process usually begins with the top management team. An outside facilitator is often necessary to ensure equal airtime, to question assumptions, and to play devil’s advocate. Managers often realize quickly that they do not know enough about their market to define their customers’ needs nor do they have enough competitor intelligence to be able to set their firm apart. Market opportunity analysis provides a framework for this effort.

As shown in Figure-1.2, MOA helps managers understand what various customers value in a current or proposed product or service, what drives their purchase and use behavior, and what competitors will offer, so that the managers can evaluate opportunities for growth. The goals of the analysis are to define the aggregate market; then, to segment that market into groups with similar needs, benefits, or experiences in various usage situations; and finally, to determine which of the segments the managers intend to serve. Thus, MOA offers a systematic process for clarifying the basic purpose of the organization.
Industry Analysis

The operating or task environment consists of the industry in which the firm operates, together with the forces directly affecting that industry which the firm may be able to influence but not control. Porter (1980) suggested that the level of profitability of a given industry is determined by the overall intensity of industry competition, which in turn derives from the industry structure and the level of five key forces. These are: (1) threat of entry, (2) power of suppliers, (3) power of buyers, (4) impact of substitutes, and (5) intra-industry rivalry. Analysis of the key forces driving an industry will reveal the inherent attractiveness of that industry. Porter’s five forces model also suggests that a firm can build competitive advantage by reducing the combined pressure of these outside forces.

Figure – 1.2: Market Opportunity Analysis

[Diagram showing the process of market opportunity analysis]
Competitor Analysis

As rivalry has intensified, threatened firms have become much more competitor-oriented and have adopted more formal, systematic competitor analysis. Yet defining a firm's competitors can be difficult. For markets in which a firm has an established position, the key competitors are those who sell to the same customers. If the firm is targeting new markets or segments, the key competitor may be either the market leader or the weakest firm in the market (depending on its strategy). A focus on key competitors, especially in intense rivalries, can cause a firm to ignore new entrants who will change the basis of competition. The competitor focus may also reduce customer orientation. Having defined key competitors in each segment, managers must understand each rival's goals, strategies, probable course of action, and strategies that might provoke retaliation. To gain market share without retaliation, managers must understand the rival's weaknesses better than the rival itself.

In this situation, the emerging paradigm has two advantages; First, the customer orientation keeps the true focus of long-term competition on satisfying the customer. New entrants successfully challenge market leaders precisely because they bring a new perspective to satisfying customer needs. Incumbents, bound by large investments, traditional channels, pricing policies, and complacent cultures, often become myopic and vulnerable. Second, the customer focus facilitates an often inconspicuous, nearly invisible array of tactics that incrementally but continuously improve delivered value. In effect, as customers' expectations are gradually exceeded, the firm providing best value can move beyond the capability of its rivals to meet the rising expectations.
Function, Activity, and Process Analyses

Function, activity, and process analyses help identify qualitative competitive advantages and disadvantages. A distinctive competence is any organizational function or skill that is superior to that of rivals. A competitive advantage is a distinctive competence that is important to customer satisfaction. Determining these requires a thorough qualitative assessment of strategies, tactics, and customer value. Traditionally, internal analysis focused on functional specializations (production/operations, marketing, finance/accounting, human resource management, management and leadership) and organization structure. But this means that functional analysis is limited to strengths and weaknesses within each function, Porter’s value chain (1980) helps managers analyze the firm horizontally rather than vertically by measuring the value-added at each step of the firm’s total process. Although markups or contribution margins at each step indicate the firm’s cost position relative to rivals, activity cost analysis does not necessarily define value added from customers’ point of view.

Competitive advantages often arise out of the ability to generate process synergies that increase customer value. In the emerging paradigm, internal analysis identifies and analyzes such cross-functional processes and systems. The managerial activity that bridges functions and connects processes into systems is sometimes referred to as “managing the white spaces” (Rummler and Brache, 1990).

Managers with a strategic intent to be global leaders will develop the firm’s ability to anticipate customer needs and take actions today to satisfy future needs. Strategic capabilities encompass the whole value-delivery system and include collective learning. A core capability is “a set of differentiated skills, complementary assets, and routines that
provide the basis for a firm’s competitive capacities and sustainable advantage in a particular business”. As a knowledge set, a core capability includes the content of (1) employee knowledge and skills as embedded in (2) technical systems, and the learning process guided by (3) managerial systems, values, and norms (Leonard-Barton, 1992). Capability-based firms like Hewlett-Packard, Rubbermaid, and Sun Microsystems have developed superior acuity, speed, innovativeness, and constancy. Measuring customer satisfaction and capability to improve value usually reveals problems and competitive disadvantages between functions rather than within a specific function. Such cross-functional problems may be the most frequent cause of poor customer satisfaction.

Competitive benchmarking is a new technique for evaluating internal processes. In this analysis, managers determine the firm’s critical processes and outputs, baseline those processes, then compare the performance of each process against a standard outside the industry. If the goal is to improve a process to world-class quality, managers must find a firm that is recognized as one of the best in the world, not just within the industry. Managers should use benchmarking wisely to inspire tailor-made solutions and not just mindlessly copy other organizations. They must know how to measure the important processes and how to interpret the measures.

**Portfolio Analysis**

We have focused so far on internal analysis at the business level. For multi-business corporations, internal analysis looks at the financial and market performance of each strategic business unit (SBU). Portfolio models based on industry or market attractiveness and relative business strength have dominated managers’ thinking, but such models tend to be financially driven toward resource allocation decisions and profit maximization. The
emerging paradigm suggests that corporate executives should view SBUs as a portfolio of core competences that span the SBUs and allocate talent as well as capital to build competences and improve capabilities.

**Long-Term Strategies**

Grand strategies are grouped into “build and grow,” “hold and maintain,” and “retrenchment” strategies. Ansoff (1965) conceptualized the build-and-grow strategy as a simple combination of current or new products targeted at current or new markets; market penetration/concentration, market development, product development, diversification based on the degree of fit with the firm’s existing products or markets. Others have added horizontal and vertical integration (either by merger or acquisition), joint venture, and innovation.

A hold-and-maintain strategy is frequently characterized by emphasis on current operations with minimal investment. Managers of firms in low-growth, high-profit markets often protect or reinforce their position by doing many little things better. Retrenchment grand strategies include turnaround, divestiture and liquidation. All three forms of retrenchment usually involve some form of downsizing to reduce the company to a set of profitable core operations. A turnaround strategy pares excess costs by eliminating non-value-adding activities and reinvests in value-added operations with growth potential. Some businesses, plants, or operations with value to someone else as a turnaround prospect can usually be divested. Unprofitable operations with little potential for turnaround and no prospective buyers may have to be liquidated for the salvage value of each individual asset.
outsourcing, which exposes key customer needs to aggressive rivals. Thus, cooperative strategies must be carefully managed for both sides to benefit.

**Strategic Choice and Strategy Implementation**

The choice of long-term objectives and strategy is often influenced by recent performance under the firm's historical strategy, the values and attitudes of top managers concerning risk and investment, and the structure and culture of the organization. If managers change strategy too often, or test tactics that are inconsistent with the grand or generic strategies, they lose focus. Generic strategy is usually very stable; grand strategy may change more often as resources become available. The criteria for choosing a particular strategy should be clearly defined.

**Action Plans and Policies**

One systems-oriented process model for developing goal consensus throughout the organization is hoshin planning (also called policy deployment). Policy deployment develops the short-term action plans (the means) at each level to be consistent with the overall strategy by linking these plans to the measures derived from the policies (ends, i.e., the objectives) established with the managers above. While quality function deployment (QFD) focuses on cross-functional or horizontal integration, hoshin planning is a highly participatory, vertical, top-down and bottom-up process used primarily as a coordinating/linking activity in the organization. In fact, policy deployment places more emphasis on process than on outcome (Imai, 1986, King 1989). Also known as management by policy or management by planning (MBP), in contrast to management by objectives (MBO), policy deployment has no direct
link with personnel practices such as promotion or salary decisions. Hoshin planning places
great emphasis on individual autonomy and self-management at the managerial level:

While individual organizations have adapted variations of policy deployment, Hoshin
planning typically includes the following:

1. Develop a five-year vision for the company.

2. Determine an annual policy in support of the vision.

3. Deploy the policy throughout the organization through participative planning.

4. Implement the policy.

5. Audit the process and plans monthly.

6. Conduct annual audits by top management.

The process is recursive, and the results of the annual top management audit form a partial
basis for the policy development phase for the next year. At first glance, the policy
deployment process would appear to run counter to the view of system improvement. In the
old paradigm, hoshin planning is often translated through management by objectives without
concern for the means, and without maintaining a customer focus. This is not true in the
new paradigm. In fact, the highly participatory process of individual goal-setting described
above takes place only in the context of a customer-value-oriented, top-down vision of the
organization's purpose. Managers pay close attention to coordination and integration at all
organizational levels. Within this context, participative planning is consistent with system
improvement.
Leadership and Management

Once plans are set, top management must drive them down to the operating level in terms everyone can understand. Leadership involves setting clear goals, involving subordinates to work toward those goals, and providing systems and resources to reach the goals. Managers’ actions must be consistent with their words. With skilled employees, higher performance usually results when individuals and groups can creatively define how they will accomplish those goals. Managers’ job descriptions usually need to be refocused on system change or improvement (leadership) rather than employee supervision (administration).

A key to implementation is process and system ownership by a team or an individual. Ownership means the team or individual has taken responsibility for and is willing to be held accountable for improving the performance of the process. An individual or team can claim ownership or top management may assign ownership; either way, a leader must take charge of process definition and improvement for each critical process. After deciding which process a leader owns, managing means improving that process and improving the links between that process and others before it, after it, and parallel with it. As a result, managers’ behavior will usually change. With a different concept of their job, managers will lead by asking questions more than by giving orders; they will encourage workers to question every practice, submit suggestions, and innovate (Pearson, 1992; Schonberger, 1992).

Once processes are in control, leaders are also responsible for improving customer value by improving the process. Managers and employees can do this only if they know who the customers are, have met and talked with them directly at the customer’s location, systematically collect data on what customers value, and can infer what the customer will
value even before the customer knows this. All managers must be capable of talking with customers and transmitting customer values to employees. In conjunction with market opportunity analysis, managers must also build an innovative entrepreneurial culture that is focused, responsive to customers, and flexible enough to take advantage of related opportunities.

**Systems and Structure**

Implementation plans often begin with reorganization, a structural approach. While structure should follow and fit the strategy, structure is often the biggest barrier to system improvement and strategic change. Many quality problems can be traced to overspecialization and the resulting sub-optimization by departments or functions. An organization’s structure must resolve the inherent conflict between the need for specialization at the functional level and the need for integration across the business. Setting up departments or functions helps employees specialize on tasks and helps managers focus resources, develop expertise, and gain synergies. However, when managers are rewarded for expanding staff or cutting costs and employees carry out parochial policies, formal structure often gets in the way of process integration across functions. Most organizations have a difficult time maintaining cross-functional integrating mechanisms, so managers resort to liaisons, ad hoc task forces, troubleshooters, and endless meetings. These Band-Aid approaches nearly always succumb to the inertia of the formal structure.

There are several top and middle management barriers that managers must overcome; lack of openness, short-term focus, and authority and power. Each of these contributes to fear in employees that inhibits improvement (Deming, 1986). Many managers have to be trained to be more open. Top management has to develop a reward system that is consistent
with long-term objectives rather than short-term quotas, and then reinforce improvement by middle managers, not just administration of the function. Middle managers often need assistance in learning that employee empowerment enhances managerial effectiveness.

Organization Culture

An organization’s culture is determined by values and assumptions about the way business is done that organizational members hold in common. Many barriers to implementing customer-value strategies are due to managerial (not employee) values and attitudes ingrained over many years. With analysis and feedback, managers can learn to manage both the substance and symbolism in four areas that influence corporate culture: rituals, communications, reward systems, and ethics. Managers’ personal behaviors speak loudest and are hardest to change. Managers must personally and collectively develop knowledge of customer value and improvement techniques. Each manager must obtain feedback directly, yet anonymously, from both employees and customers. Further, managers should analyze rituals and practices such as meetings, communications, and recognition and reward systems to identify dysfunctional and inconsistent behaviors. Successful managers creatively and publicly motivate individual contributions to continuous improvement and celebrate group achievements of short-term objectives. Finally, managers must set ethical standards, provide exemplary ethical leadership, and enforce ethical standards throughout the organization.

Human Resource Management

Perhaps the most important key to implementation is human resource management (HRM). Team building, a common starting point, must be part of a systematic change
program led by top management. Recruiting, selecting, and training procedures should be modified to provide a work force oriented to and capable of cooperatively understanding customer needs, creating value, and improving value systems. Managers in continuously improving organizations will identify skills needed to compete in emerging technologies that redefine customer value and recruit highly qualified people to develop into core capabilities or competences (Pearson, 1992). Job descriptions should define each employee’s responsibility for improvement, not just task performance. Cross-training in job tasks, statistical training (SPC), and team building are essential. All managers and employees must learn to work together, deal with customers, break down barriers between functions, and continuously improve all aspects of the organization so as to deliver better value.

That employees need frequent, accurate, and consistent feedback is certain. SPC enables employees to understand the processes they work with and provides them with immediate feedback. It also makes employees more aware of managers’ responsibility for system improvements. If managers are not willing to act on process information to improve systems, a program of continuous improvement should never be started. Managers must be trained to listen, respond to cross-functional issues, help employees become responsible for and develop ownership of their part of the process, and deal with suggestions in a positive, timely way.

Managers must create performance development and reward systems to focus work on what is and will be important to improving customer value, to encourage the right balance of individual and collective effort, and to motivate changes in behavior. Many change programs fail early because managers and employees do not get a strong signal that improvement and customer satisfaction are paramount. The CEO must use HRM systems to
redefine the culture and convince employees that continuous improvement is not another fad, that customers and management really do expect continuous improvement.

**Evaluation of Strategy Implementation**

Planning is key to good implementation, but managers must then monitor the action plans as they unfold. Strategic control systems focus on two questions: (1) Is the strategy being implemented as planned? And (2) Is the strategy working (is it achieving the intended results)? Just as with operating control systems, managers should specify the standard for strategic performance; establish a system for monitoring that performance, and take corrective action when deviations exceed trigger points. Managers tend to monitor operating performance better than strategic progress because their personal reward system is tied to short-term financial results and because they have not empowered employees to be responsible for the operating system. Thus, strategic control systems should be separated from operating control systems.

Most managers, familiar with traditional operating control systems, rely on budgets and schedules. Traditional controls, though, may be counterproductive. Budgets were designed as a resource allocation tool, not a control tool. If the customer is most important, strategic control must put quality improvement and system improvement ahead of the financial goals. In fact, Robert Galvin, former CEO of Motorola (now retired), reversed the usual reporting order in executive committee meetings by putting quality improvement updates first on the agenda. To further emphasize the importance of customer satisfaction, he then left the room before financial results were reported. Roger Milliken, CEO of Milliken and Co., quit focusing on variance reports in order to spend all his time on quality issues. Neither example illustrates systemic, multidimensional management (focused on
means and results). However, these leaders did dramatize the importance of focusing on customer value. In short, to fulfill the organization’s purposes managers must focus on satisfying internal and external customers and continuously improve processes and capabilities that impact customer value.

VI. Methodology

The primary research design is exploratory and descriptive. The main objective is to understand the theoretical underpinnings of the selected five models through a survey of literature and to understand the motives, fidelity, context and success or failure of their implementation through a case study approach.

The secondary research techniques used are primarily secondary data analysis of company data, much of it confidential, but made available to the researcher on condition was confidentiality was respected. It was originally proposed to conduct an extensive quantitative analysis with statistical testing of hypothesis. This however became impossible due to two reasons:

i) Data from different organizations were of varying quality and was not comparable for a number of reasons.

ii) Many organizations were simultaneously following, practicing and implementing more than one model and it was not possible to separate out the effects of each model as data capture in these organizations had not anticipated such a study nor was it required in their perception for operations.

The methodology adopted uses the process of inducting theory using case studies from specifying the research questions to reaching closure. Some features of the process,
Table 1.1

Process of Building Theory from Case Study Research

<table>
<thead>
<tr>
<th>Step</th>
<th>Activity</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>Getting Started</td>
<td>Definition of research question</td>
<td>Focuses efforts</td>
</tr>
<tr>
<td></td>
<td>Possibly a priori constructs</td>
<td>Provides better grounding of construct measures</td>
</tr>
<tr>
<td>Selecting Cases</td>
<td>Neither theory nor hypotheses Specified population</td>
<td>Retains theoretical flexibility</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Constrains extraneous variation and sharpens external validity</td>
</tr>
<tr>
<td>Crafting Instruments and Protocols</td>
<td>Multiple data collection methods Quality and quantitative data combined</td>
<td>Strengthens grounding of theory by triangulation of evidence</td>
</tr>
<tr>
<td></td>
<td>Multiple investigators</td>
<td>Synergistic view of evidence</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fosters divergent perspectives and strengthens grounding</td>
</tr>
<tr>
<td>Entering the Field</td>
<td>Overlap data collection and analysis,</td>
<td>Speeds analyses and reveals helpful adjustments to data collection</td>
</tr>
<tr>
<td></td>
<td>Including field notes</td>
<td>Allows investigators to take advantage of emergent themes and</td>
</tr>
<tr>
<td></td>
<td>Flexible and opportunistic data collection methods</td>
<td>unique case features</td>
</tr>
<tr>
<td>Analyzing Data</td>
<td>Within-case analysis</td>
<td>Gains familiarly with data and preliminary theory generation.</td>
</tr>
<tr>
<td></td>
<td>Cross-case pattern search using divergent</td>
<td>Forces investigators to look beyond initial impressions and see evidence Circles through multiple lenses</td>
</tr>
<tr>
<td></td>
<td>techniques</td>
<td></td>
</tr>
<tr>
<td>Shaping Hypotheses</td>
<td>Iterative tabulation of evidence for each</td>
<td>Sharpens construct definition,</td>
</tr>
<tr>
<td></td>
<td>construct</td>
<td>validity, and measurability</td>
</tr>
<tr>
<td></td>
<td>Replication, not sampling, logic across cases</td>
<td>Confirms, extends, and sharpens</td>
</tr>
<tr>
<td></td>
<td>Search evidence for &quot;why&quot; behind</td>
<td>theory</td>
</tr>
<tr>
<td></td>
<td>relationships</td>
<td>Builds internal validity</td>
</tr>
<tr>
<td>Enfolding Literature</td>
<td>Comparison with conflicting literature</td>
<td>Builds internal validity, raises</td>
</tr>
<tr>
<td></td>
<td>Comparison with similar literature</td>
<td>theoretical level, and sharpens</td>
</tr>
<tr>
<td></td>
<td></td>
<td>construct definitions</td>
</tr>
<tr>
<td>Reaching Closure</td>
<td>Theoretical saturation when possible</td>
<td>Sharpens generalizability, improves</td>
</tr>
<tr>
<td></td>
<td></td>
<td>construct definition, and raises</td>
</tr>
<tr>
<td></td>
<td></td>
<td>theoretical level</td>
</tr>
</tbody>
</table>

such as problem definition and construct validation, are similar to hypothesis-testing research. Others, such as within-case analysis and replication logic, are unique to the inductive, case-oriented process. Overall, the process described here is highly iterative and tightly linked to data. This research approach is especially appropriate in new topic areas.
Finally, frame breaking insights, the tests of good theory (e.g., parsimony, logical coherence), and convincing grounding in the evidence are the key criteria for evaluating this type of research. The result is a more nearly complete roadmap for executing this type of research than has existed in the past. This framework is summarised in Table 1.1 above:

The Case Study Approach

The case study is a research strategy which focuses on understanding the dynamics present within single settings. Examples of case study research include Selznick’s (1949) description of TVA, Allison’s (1971) study of the Cuban missile crisis, and Pettigrew’s (1973) research on decision making at a British retailer. Case studies can involve either single or multiple cases, and numerous levels of analysis (Yin, 1984). For example, Harris and Sutton (1986) studied 8 dying organizations, Bettenhausen and Murnighan (1986) focused on the emergence of norms in 19 laboratory groups, and Leonard-Barton (1988) tracked the progress of 10 innovation projects. Moreover, case studies can employ an embedded design, that is, multiple levels of analysis within a single study (Yin, 1984). For example, the Warwick study of competitiveness and strategic change within major U.K. corporations is conducted at two levels of analysis: industry and firm (Pettigrew, 1988), and the Mintzberg and Waters (1982) study of Steinberg's grocery empire examines multiple strategic changes within a single firm.

Case studies typically combine data collection methods such as archives, interviews, questionnaires, and observations. The evidence may be qualitative (e.g., words), quantitative (e.g., numbers), or both. For example, Sutton and Callahan (1987) rely exclusively on qualitative data in their study of bankruptcy in Silicon Valley, Mintzberg and McHugh
(1985) use qualitative data supplemented by frequency counts in their work on the National Film Board of Canada, and Eisenhardt and Bourgeois (1988) combine quantitative data from questionnaires with qualitative evidence from interviews and observations.

**Table 1.2**

*Some Examples of Inductive Case Study Research*

<table>
<thead>
<tr>
<th>Study</th>
<th>Description of Cases</th>
<th>Research Problem</th>
<th>Data Sources</th>
<th>Investigators</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burgelman (1983)</td>
<td>6 internal corporate ventures in 1 major corporation</td>
<td>Management of new ventures</td>
<td>Archives interviews Some observations</td>
<td>Single Investigator</td>
<td>Process model linking multiple organizational levels</td>
</tr>
<tr>
<td>Mintzberg &amp; McHugh (1985)</td>
<td>1 national Film Board of Canada, 1939-1975, with 6 periods.</td>
<td>Formulating of strategy in an adenocracy</td>
<td>Archives Some interviews</td>
<td>Research team</td>
<td>Strategy-making themes, &quot;grass roots&quot; model of strategy formation</td>
</tr>
<tr>
<td>Harris &amp; Sutton (1986)</td>
<td>8 diverse organizations</td>
<td>Parting ceremonies during organizational death</td>
<td>Interviews Archives</td>
<td>Research team</td>
<td>Conceptual framework about the functions of parting ceremonies for displaced members</td>
</tr>
<tr>
<td>Eisenhardt &amp; Bourgeois (1988)</td>
<td>8 microcomputer firms</td>
<td>Strategic decision making in high velocity environments</td>
<td>Interviews Questionnaires Archives Some observations</td>
<td>Research team Tandem Interviews</td>
<td>Mid-range theory linking power, politics, and firm performance</td>
</tr>
<tr>
<td>Gersick (1988)</td>
<td>8 project groups with deadlines</td>
<td>Group development in project teams</td>
<td>Observation Some interviews</td>
<td>Single Investigator</td>
<td>Punctuated equilibrium model of group development</td>
</tr>
<tr>
<td>Leonard-Barton (1988)</td>
<td>10 technical innovations</td>
<td>Internal technology transfer</td>
<td>Interviews Experiment Observation</td>
<td>Single Investigator</td>
<td>Process model</td>
</tr>
<tr>
<td>Pettigrew (1988)</td>
<td>1 high performing &amp; 1 low performing firm in each of 4 industries</td>
<td>Strategic change &amp; competitiveness</td>
<td>Interviews Archives Some observations</td>
<td>Research team</td>
<td>Change Model</td>
</tr>
</tbody>
</table>

Finally, case studies can be used to accomplish various aims: to provide description (Kidder, 1982), test theory (Pinfield, 1986; Anderson, 1983), or generate theory (e.g.,
Gersick, 1988; Harris & Sutton, 1986). Table 1.2 summarises some research using case studies.

**Sampling Design - Selection of Cases**

Selection of cases is an important aspect of building theory from case studies. As in hypothesis-testing research, the concept of a population is crucial, because the population defines the set of entities from which the research sample is to be drawn. Also, selection of an appropriate population controls extraneous variation and helps to define the limits for generalizing the findings.

The Warwick study of strategic change and competitiveness illustrates these ideas (Pettigrew, 1988). In this study, the researchers selected cases from a population of large British corporations in four market sectors. The selection of four specific markets allowed the researchers to control environmental variation, while the focus on large corporations constrained variation due to size differences among the firms. Thus, specification of this population reduced extraneous variation and clarified the domain of the findings as large corporations operating in specific types of environments.

However, the sampling of cases from the chosen population is unusual when building theory from case studies. Such research relies on theoretical sampling (i.e., cases are chosen for theoretical, not statistical, reasons, Glaser & Strauss, 1967). The cases may be chosen to replicate previous cases or extend emergent theory, or they may be chosen to fill theoretical
categories and provide examples of polar types. While the cases may be chosen randomly, random selection is neither necessary, nor even preferable. As Pettigrew (1988) noted, given the limited number of cases which can usually be studied, it makes sense to choose cases such as extreme situations and polar types in which the process of interest is "transparently observable." Thus, the goal of theoretical sampling is to choose cases which are likely to replicate or extend the emergent theory. In contrast, traditional, within experiment hypothesis-testing studies rely on statistical sampling, in which researchers randomly select the sample from the population. In this type of study, the goal of the sampling process is to obtain accurate statistical evidence on the distributions of variables within the population.

**Crafting Instruments & Protocols**

Researchers typically combine multiple data collection methods. While interviews, observations, and archival sources are particularly common, inductive researchers are not confined to these choices. Some investigators employ only some of these data collection methods (e.g., Gersick, 1988, used only observations for the first half of her study), or they may add others (e.g., Bettenhausen & Murnaghan, 1986, used quantitative laboratory data). The rationale is the same as in hypothesis-testing research. That is, the triangulation made possible by multiple data collection methods provides stronger substantiation of constructs and hypotheses.

Of special note is the combining of qualitative with quantitative evidence. Although the terms qualitative and case study are often used
interchangeably (e.g., Yin, 1981), case study re- search can involve qualitative data only, quantitative only, or both (Yin, 1984). Moreover, the combination of data types can be highly synergistic. Quantitative evidence can indicate relationships which may not be salient to the re- searcher. It also can keep researchers from being carried away by vivid, but false, impressions in qualitative data, and it can bolster findings when it corroborates those findings from qualitative evidence. The qualitative data are useful for understanding the rationale or theory underlying relationships revealed in the quantitative data or may suggest directly theory which can then be strengthened by quantitative support.

A striking feature of research to build theory from case studies is the frequent overlap of data analysis with data collection. For example, Glaser and Strauss (1967) argue for joint collection, coding, and analysis of data. While many re- searchers do not achieve this degree of overlap, most maintain some overlap.

Field notes, a running commentary to oneself and/or research team, are an important means of accomplishing this overlap. As described by Van Maanen(1988), field notes are an ongoing stream-of-consciousness commentary about what is happening in the research, involving both observation and analysis-preferably separated from one another.
Analyzing Within-Case Data

Analyzing data is the heart of building theory from case studies, but it is both the most difficult and the least codified part of the process. Since published studies generally describe research sites and data collection methods, but give little space to discussion of analysis, a huge chasm often separates data from conclusions. As Miles and Huberman (1984, p. 16) wrote: "One cannot ordinarily follow how a researcher got from 3600 pages of field notes to the final conclusions, sprinkled with vivid quotes though they may be." However, several key features of analysis can be identified. One key step is within-case analysis.

Within-case analysis typically involves detailed case study write-ups for each site. These write-ups are often simply pure descriptions, but they are central to the generation of insight (Gersick, 1988; Pettigrew, 1988) because they help researchers to cope early in the analysis process with the often enormous volume of data. However, there is no standard format for such analysis. Quinn (1980) developed teaching cases for each of the firms in his study of strategic decision making in six major corporations as prelude to his theoretical work.

Searching for Cross-Case Patterns

Coupled with within-case analysis is cross-case search for patterns. The tactics here are driven by the reality that people are notoriously poor processors of information. They leap to conclusions based on limited data
(Kahneman Tversky, 1973), they are overly influenced by the vividness (Nisbett & Ross, 1980) or by more elite respondents (Miles & Huberman, 1984), they ignore basic statistical properties (Kahneman & Tversky, 1973), or they sometimes inadvertently drop disconfirming evidence (Nisbett & Ross, 1980). The danger is that investigators reach premature and even false conclusions as a result of these information-processing biases. Thus, the key to good cross-case comparison is counteracting these tendencies by looking at the data in many divergent ways.

One tactic is to select categories or dimensions, and then to look for within-group similarities, coupled with inter group differences. Dimensions can be suggested by the research problem or by existing literature, or the researcher can simply choose some dimensions.

A second tactic is to select pairs of cases and then to list the similarities and differences between each pair. This tactic forces researchers to look for the subtle similarities and differences between cases. The juxtaposition of seemingly similar cases by a researcher looking for differences can break simplistic frames.

A third strategy is to divide the data by data source. For example, one researcher combs observational data, while another reviews inter- views, and still another works with questionnaire evidence. This tactic was used in the separation of the analyses of qualitative and quantitative data in a study of strategic decision making (Bourgeois & Eisenhardt, 1988; Eisenhardt & Bourgeois, 1988)
Overall, the idea behind these cross-case searching tactics is to force investigators to go beyond initial impressions, especially through the use of structured and diverse lenses on the data.

**Data Sources (Selection of Cases)**

In line with discussion above, a three pronged strategy to collect data was adopted:

- Six large companies for detailed cross-model study (Stage I)
- Another six companies to study one model intensively (Stage II)
- 40 mid size companies to study the *process* of implementation of another model (Stage III)

The six selected large organisations were – Hewlett-Packard (in the IT hardware and software domain), Tata Steel (the largest Indian private sector integrated steel plant operator), Infosys (leading Indian IT services organisation), Tata Motors Commercial Vehicle Business Unit (India’s largest commercial vehicles manufacturer) Tata Consultancy Services (India’s largest IT services company in terms of both revenue and manpower) and Maruti Suzuki Ltd (India’s largest manufacturer of passenger vehicles but with foreign ownership).

After interviews and data collection on these companies were completed, it was clear that the Model that needed separate focus in Stage II due to its insufficient deployment in the above six organisations in Stage I was TPM.
Accordingly the following seven organisations were selected for an in-depth study of TPM in Stage II — BPL Ltd, TANFAC Ltd, Birla Tyres, Vikram Cement, Indo-Gulf Fertilisers, a representative factory of Hindustan Lever and Usha Martin Industries.

The Model chosen for study of implementation process in Stage III was TQM, in view of its apparent overwhelming popularity as evidenced across all the responding organisations of Stage I.

It is readily seen that the selection of cases cuts across ownership – Indian and foreign – sector – steel, automobiles, IT hardware, IT services, consumer products – FMCG and durables – continuous process and geography – across all regions of India.

Analysis of data involved sifting through a large mass of qualitative and quantitative data in the search for patterns.

VII. Limitations

- Selection of samples is not probabilistic and therefore statistical rigour cannot be claimed. However for an exploratory and descriptive research design, the methodology can be claimed to be appropriate.

- As the number of samples is fewer in number than would be required by a sampling design, it is not statistically feasible to extrapolate sample findings to the population. However since the organizations chosen for study are
representative in terms of managerial problems faced, approaches taken by them can be intuitively considered to be representative of general industry.

- Since many responses are obtained by a process of examination, cross-examination and re-cross examination, effects of interviewer bias and subject fatigue are possible. However given the extensive nature of the investigation in each organization and the number of respondents queried, it is unlikely that any significant distortion has resulted without assuming systematic conspiracy.

- To the extent that certain models such as Six Sigma and the Balanced Scorecard have not been studied in this research extensively, it has not been possible to conclude about the effectiveness of these models.

- Similarly there are sector specific models such as the SEI-CMM model and TS 16949 which could be compared with mainstream ones.

- The findings could be highly culture specific in that there could be a pronounced ‘Indian’ bias. This can be eliminated by replicating the study in other cultures.

- There has been no study of motivations and organisational climate issues which could have confounded results.

VIII. Chapter Frame

The chapter frame of the research thesis is as follows:

The first chapter covers the problem statement, the relevance of the research, scope and objectives of the study, a description of background developments in strategic management to set the context, the research methodology and limitations of the study.
The second chapter provides a description of the five models studied in the research.

The third chapter reviews the literature relevant to the topic.

The fourth chapter discusses data obtained from 6 large companies in Stage I

The fifth chapter discusses data obtained from 7 large companies in Stage II

The sixth chapter discusses data obtained from 40 mid size companies in Stage III

The seventh and last chapter summarises the findings, conclusions, suggestions, and future research directions of the study.