THE ROLE OF LAUNCH PLANNING IN THE EARLY COMMERCIAL SUCCESS OF HIGH TECHNOLOGY PRODUCTS

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TABLE OF CONTENTS

LIST OF CHAPTERS

LIST OF TABLES

LIST OF FIGURES

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MY THANKS TO YOU ALL!

DECLARATION

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ABSTRACT

This thesis examines the association between launch planning and the early commercial success of high-tech products. The literature suggests that the launch phase is of great importance to new product success and that launch planning is a critical issue. The high cost of most launches also places a premium upon undertaking this activity effectively. A sample of 30 firms was drawn from the population of UK, mid-sized electronics companies. This group was chosen because of its importance to the national economy and its innovative record. Data was gathered by personal interviews with marketing directors and managers. Respondents were asked to nominate a successful new product launch to serve as a case example.

Performance was measured on a dependent variable designed to capture the degree of commercial success one year after launch. Analysis of the contribution of the independent variables to success was by means of parametric & non-parametric statistical tests, complemented by verbatim records. The results of the research strongly confirm the hypothesised association between more sophisticated planning and superior new product commercial performance. Additionally, a more concentrated marketing strategy (incorporating: 'ambition', 'effort', and 'focus') was also associated with better performance. However, contrary to expectations, sophisticated planning was the senior partner having a much stronger relationship with success. The implication is that the planning process is more important than the content of the marketing strategy. Consequently, the findings provide strong support for the proposition that a sophisticated, well executed launch planning process is a vital contributor to the early success of new high-tech products. Planning pays!

The practical implications of the findings are that firms should devote more attention to their launch planning. Not simply by formalising the process, but with measures designed to improve information gathering, participation from inside and outside the firm, monitoring & control and a willingness to adapt the plans during the post-launch phase. It was found that most of the sample companies were trying to implement similar marketing strategies. What has the greatest impact upon launch success is the attention given to the planning process over both planning initiation and implementation (ie the pre & post launch phases).

From a theoretical perspective the thesis has contributed to three areas - (1) Contrary to the emphasis given by some researchers to the pre-development stages of NPD, this study indicates that it is just as important to effectively execute the latter stages. (2) It demonstrates the value of measuring planning as a dynamic, multi-dimensional process extending over both initiation and implementation phases. (3) The results indicate that launch planning practices can have a more significant impact upon early commercial success than the realized strategy ie 'process' can be more important than 'content'.

ABBREVIATIONS USED & CONVENTIONS EMPLOYED

A B C	American Business Conference
A N O V A	Analysis of Variance
bn	billion (=1,000,000,000)
B S	British Standard
C A D	Computer Assisted Design
C E O	Chief Executive Officer
CPM	Critical Path Method
df	degrees of freedom
DTI	Department of Trade and Industry
F T	Financial Times
H G S C	Hoare Govett Smaller Companies
High-Tech	High Technology
JIT	Just In Time
L B S	London Business School
m	million
MD	Managing Director
MIS	Management (*or* Marketing) Information System
N E D O	National Economic Development Office
NPD	New Product Development
NTBF	New Technology Based Firm
O E C D	Organisation of Economic Cooperation & Development
O E M	Original Equipment Manufacturer
P C	Personal Computer
PIMS	Profit Impact of Market Strategy
P L C	Product Life Cycle
P R	Public Relations
R&D	Research and Development
R O C E	Return on Capital Employed
R O I	Return on Investment
R O S	Return on Sales
S B U	Strategic Business Unit
S I C	Standard Industrial Classification
t/o	turnover
UK	United Kingdom
U S A	United States of America

CONVENTIONS

As a means of distinguishing Chapter Sections and sub-sections the following convention is employed - Main Sections are referred to as eg '.... Section 3.4. ...', whilst sub-sections are referred to as eg '.... section 3.4.1. ...' etc.

Within the NPD process, the major divisions (eg 'Commercialization') are referred to as 'stages', whilst the contributory elements to these stages are called 'phases' eg the launch phase is a component of the commercialization stage.

LIST OF APPENDICES

PART ONE

RESEARCH OVERVIEW

CHAPTER ONE

INTRODUCTION

1.1. PURPOSE AND OVERVIEW

This first Chapter sets the scene for the Thesis and is written to give the reader an overview of the research. It starts by justifying the choice of new product launch planning as a worthy subject of study, demonstrating that the launch phase is a significant but neglected part of the NPD process.

The next Section follows with an explanation of how the literature review is organized - moving from considerations of the managerially controllable factors impinging upon NPD success to the substantiation of the hypotheses. During this description an opportunity is taken to set out the model of the phenomena - in which the degree of sophistication in launch planning and the extent of marketing strategy concentration are shown to be important determinants of the commercial success of new product launches. It is also argued that the wide range of the literature reviewed and the ubiquitous nature of the sampled (electronics) industry supports the contention that the results will be relevant to a wide range of industrial marketing situations.

The Chapter then moves on to consider the research design and methods adopted in the study. This is accomplished in two stages. First, the significance and pertinence of the sampled industry is demonstrated, including its value as a general model for best NPD practice. It is shown that, despite caveats, the UK electronics industry enjoys international success, with the target population of mid-sized manufacturing companies making a disproportionately large contribution to the total innovative

output. Second, consideration is given to the means by which the data was gathered and analysed. Data collection was by personal interview, facilitating a high response rate and a wealth of information, both quantitative and qualitative - the latter funding a rich source of case material. For the statistical analysis both parametric and non-parametric tests were employed, thereby increasing our confidence in the results.

The penultimate Section summarises the research findings. These provide strong support for the hypotheses that the greater the sophistication in launch planning and the more concentrated the marketing strategy the greater the early commercial success of a new product. The reader's attention is also drawn to the use made of the qualitative data, whereby a narrative description of best launch planning practice is produced and a 'plan for planning' compiled.

Finally, the Chapter concludes by mapping out for the reader a plan (appropriately !) of the Thesis.

1.2. PROBLEM AND PURPOSE OF THE RESEARCH

This is a study of planning practices for new product launches. What should, of course, be added is **successful** launches. Unfortunately, a significant proportion of newly marketed products are failing. In a survey of 'credible' research Crawford (1987) revealed a failure rate of around 30 to 35%, whilst in Cooper's (1982) study about 25% of industrial products failed. Whether these figures are 'high' or 'low' is a matter of debate. What is not

in doubt is that they represent a considerable waste of resources, both in time and money. Souder (1987) demonstrated that in electronics firms commercialization type activities took up 44% of total NPD time, with 25% allocated to 'marketing start-up'. This finding was supported by Cooper & Kleinschmidt (1988) who found 23% of time given to industrial product commercialization, with significantly (at the 5% level) more time allocated to successful than unsuccessful launches. In particular this involved more time given to 'pre-commercialization' business analysis and market launch.

As might be expected, the commercialization stage in new product development (identified in Section 3.4.) is often the most expensive (Booz, Allen & Hamilton, 1982), a finding based upon a wide range of industries. Average costs for the commercialization of industrial products has been found to range from 44% (Souder, 1987) to 54% (Cooper & Kleinschmidt, 1988) of total NPD costs. Given the diversity of high-tech firms it is only possible to generalise for this category and clearly in some areas launch costs can be substantial eg consumer products, office machinery etc. Davidow (1986), based upon extensive high-tech experience, estimates that a common marketing expenditure level is more than 20% of revenues. Further, successful launches have about six times as much spent on them as unsuccessful launches. But Souder (1987) discovered that electronics companies spend in total more on failed NPD projects than they do on successful projects!

For stretched and resource hungry businesses it is clearly important that the failure rate of newly launched products should

be minimised. Only by husbanding their resources and reaping the full benefits of NPD effort will these companies grow to full maturity.

The main purpose of this research is, therefore, to study and explain how an important aspect of new product development can be better managed to improve the commercial performance of newly launched products. As such 'early commercial success' becomes the dependent variable - calculated, on a five item composite scale, as the degree of 'commercial success' achieved by a new product one year after launch. The rationale for this choice is explained in Section 6.3. and the method by which the variable is constructed is set out in Appendix 6.3.3.

More specifically, evidence to be discussed in the next Section suggests that the manner in which a firm undertakes planning for the market launch of a new product has a significant impact upon the commercial success of that product.

1.3. PREVIOUS WORK IN THE FIELD

Whilst the area of NPD has been extensively studied, there is very little research that specifically addresses the subject of launch planning. This is not to say that the extant research has failed to include launch planning. It often has, but it has been incorporated as one of many variables. That said, the available evidence points to the importance of launch planning in the success of new products.

Crawford (1987) writes that **commercialization '.... is the graveyard of product innovation'**, whilst Cooper (1983a) emphasises -

> '.... a well integrated and properly targeted launch effort does not happen by chance. It is the result of a fine-tuned marketing plan backed by proper execution. The marketing planning process .... must therefore be built into the new product activity plan.'

In addition, research by Maidique & Zirger (1984) and Cooper & Kleinschmidt (1986 & 1988) has shown that greater proficiency in the execution of market launch is a significant discriminator between successful and unsuccessful new products. More emphatically, Link (1987) found that the management of launch execution was **the** most important contributor to new product success, whilst Boag & Rinholm (1989) concluded that 'planning methods' was the NPD activity with which high-tech firms were most dissatisfied.

Souder (1987) makes the useful distinction between *technical success* and *commercial success*. He found that detailed planning and control was not significant for technical success, but was significant for commercial success. He reasoned that in the early phase of a project's life, shortage of information made detailed planning inappropriate. It also deflated entrepreneurial zeal. But in the latter stages of development, with more data available, detailed planning was essential to meet marketing targets.

Support for the proposition that planning for the launch of a new product is important to commercial success also comes from a variety of discursive high-tech studies (eg Moore, 1976; Zarecor, 1975; Stone, 1985; Davidow, 1986). Of these, Davidow is the most interesting. As the former sales & marketing senior vice-president of the Intel Corporation he writes ....

> 'Marketing plans are the heart of new product development'. *But they* '.... should be living documents. .... most plans are obsolete within ninety days. .... Regular review is thus a most valuable part of the planning process.'

The final sentence is of particular interest since it serves to reinforce the position taken in the research that launch planning should be studied as an extended, multifaceted process.

1.3.1. The Primary and Secondary Research Questions

It has been shown that launch planning is a vital contributor to the early commercial success of new products. As such, it is logical to suggest that success could be a function of the type of planning undertaken for launch. This proposition forms the basis of the primary research question -

The Primary Research Question

> Some new product launches achieve greater early commercial success than others. Are more successful launches associated with significantly different planning procedures?

But, in addition, planning is the precursor of the launch strategy. Once this was the 'received wisdom' until Mintzberg & Waters (1985) suggested that strategy has many sources. They

write of 'the intended strategy' (ie that which is planned). Parts of this are 'unrealized' in the market place and what is left is termed the 'deliberate' strategy. To this is added the 'emergent' strategy, extemporised and contingent upon unforseen events. The 'deliberate' and 'emergent' strategies coalesce to form the 'realized' strategy, and it is this strategy 'type' which is actually implemented. However, on examination their model accords well with common sense. Planning, and the production of a plan is retained in their model. But, as might be expected, only aspects of the intended plan are implemented. During implementation, changes are made in the light of circumstances, resulting in the 'realized' strategy. This matches the concept of 'flexibility' introduced during the discussion of the constituent elements of 'planning' (section 4.3.6.), and for practical purposes it is the 'realized' strategy that is examined in this research.

Additionally, Cooper & Kleinschmidt (1991) observed that more proficient launch planning results in a higher degree of respondent satisfaction with both the NPD process and its outcome - a proposition reinforced by Dwyer & Mellor (1991a). They found that a proficient market launch is positively related to an explicit, documented business strategy. These results are consonant with the Mintzberg 'thesis' and lead to the conclusion that it is valuable to study the relationship between launch planning and strategy. Further, Robinson & Pearce (1988) have shown that a greater degree of planning sophistication and marketing strategy 'consistency & commitment' can lead to superior corporate financial performance.

In the light of these considerations and as an adjunct to the primary research question, our research also addresses the relationship between the process of launch planning, the realized strategy and new product commercial performance. The possibility of a relationship between these two variables and new product performance is stated in the secondary research question -

The Secondary Research Question

> Some new product launches achieve greater early commercial success than others. Do particular launch planning procedures allied with particular realized launch strategies achieve superior early commercial success?

The theoretical and empirical issues underlying these research questions are explored in Section 3.4.

Critical to both of these questions is precisely what is meant, within the research context, of launch planning and the realized marketing launch strategy. Definitions of these terms are developed from the literature in Section 3.3., but as an aid to the reader they are stated below:

Definition of New Product Launch Planning

> New product launch planning is a (semi) formal iterative process undertaken during the commercialization stage of NPD. It consists of two phases - initiation and implementation. In the first phase, undertaken prior to market introduction, decisions are taken based upon market analysis, for the deployment of marketing resources to meet new product marketing objectives. The outcome of this first phase is a 'plan' of action which may be a written document embodying the intended marketing strategy.
>
> In the second implementation phase, undertaken after market introduction, progress in meeting objectives is evaluated. Plans are modified where appropriate and remedial action taken.

Regardless of their planning proficiency, firms will pursue some kind of strategy, identifiable in terms of what they do in the market-place. This manifestation of strategy - the 'realized' launch strategy - is used in the definition -

Definition of the New Product Realized Marketing Launch Strategy

> A new product 'realized' marketing launch strategy is the pattern of marketing resource deployment through which an organisation seeks to meet its new product marketing objectives. These may have been stated as part of a formal document, the plan, setting out the intended strategy. But, in the light of market introduction experience, intended actions are often amended, resulting in the 'realized' strategy.

1.4. THE ORGANIZATION AND KEY FEATURES OF THE LITERATURE REVIEW

It was implied above that the Thesis spends some time establishing the research questions and the concomitant definitions of planning and strategy. Together with the justification of the hypotheses to be tested this is accomplished in Part Two of the Thesis - devoted to an extensive literature review covering the NPD, organisational, corporate and marketing strategy traditions. The wide ranging nature of the review is considered necessary because of several novel features in the research. Firstly, it addresses the launch phase of NPD, recently marginalised by some researchers (eg Cooper, 1988). As such it is important to re-establish the vital significance of launch activities. Secondly, the research breaks new ground in the NPD field by focusing upon launch planning, an area never considered in detail before. We also measure the combined impact of planning

and strategy upon new product commercial success - an exercise previously undertaken only at the corporate level. Finally, a complex model of the planning process (extending over initiation and implementation stages) requires detailed examination and justification.

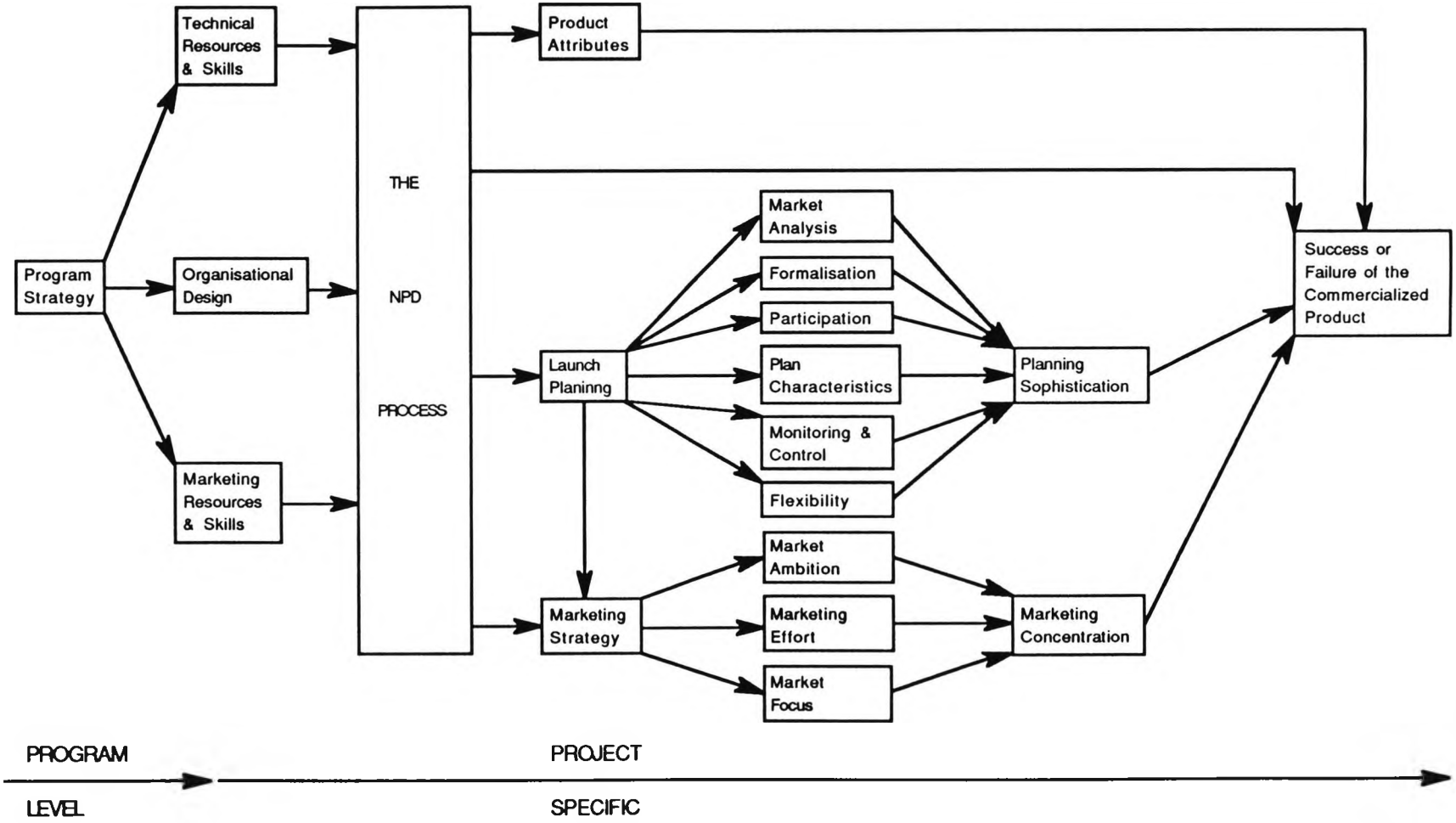
To cover these related areas, Part Two of the Thesis is split into three Chapters, and the remainder of this Section sets out the rationale for organizing the literature review in this way. In addition, the opportunity is taken to highlight key aspects of the research - in particular, the model of launch planning and its general applicability.

Part Two begins in Chapter Two by establishing the importance of the launch phase of NPD to commercial success. This is achieved by first identifying the importance of organic / innovation led growth to firms. Within this framework a review of the key issues associated with each of the managerially controllable factors contributing to successful NPD is undertaken. It is shown that new product commercialization has an important (and in some cases undervalued) role to play. As a result of this analysis a model is developed showing how these managerially controllable factors impinge upon the NPD outcome.

Figure 1.4(a). overleaf sets out this general model.

Figure 1.4(a).

A MODEL OF THE MANAGERIALLY CONTROLLABLE FACTORS DIRECTLY EFFECTING NEW PRODUCT COMMERCIAL SUCCESS - Showing in Particular the Role of Launch Planning and Marketing Strategy



It will be seen that the model shows single NPD projects part-of and flowing from a program strategy for product innovation. At the project specific level, technical, organisational and marketing factors, determined by the NPD program, are combined and managed within the NPD process. Assuming (near) completion of the project, a launch is planned, incorporating the marketing strategy. (The focus of the research and elaborated upon overleaf using Figure 1.4[b].)

These two factors then converge upon the commercial outcome of the launch. Similarly, the product attributes and the way in which the NPD process is conducted both have a direct effect upon the project outcome. Whilst the impact of the product's attributes (eg quality / design) is obvious, the process itself can also directly effect commercial success by facilitating such things as a speedier launch. However, an effective research design precludes the measurement of all of these factors, and whilst planning and strategy are left to vary, the two other variables are controlled. This was done by screening each of the launches proposed by the respondents to ensure that (i) the launch processes were effectively accomplished and (ii) the products were all broadly similar in terms of technological innovativeness and market newness.

Within the realm of the product launch phase, Chapter Three first explains why planning and strategy can profitably be evaluated in unison. This sets the scene for the justification of the definitions of launch planning and marketing launch strategy. In the light of these definitions the importance of launch planning and its

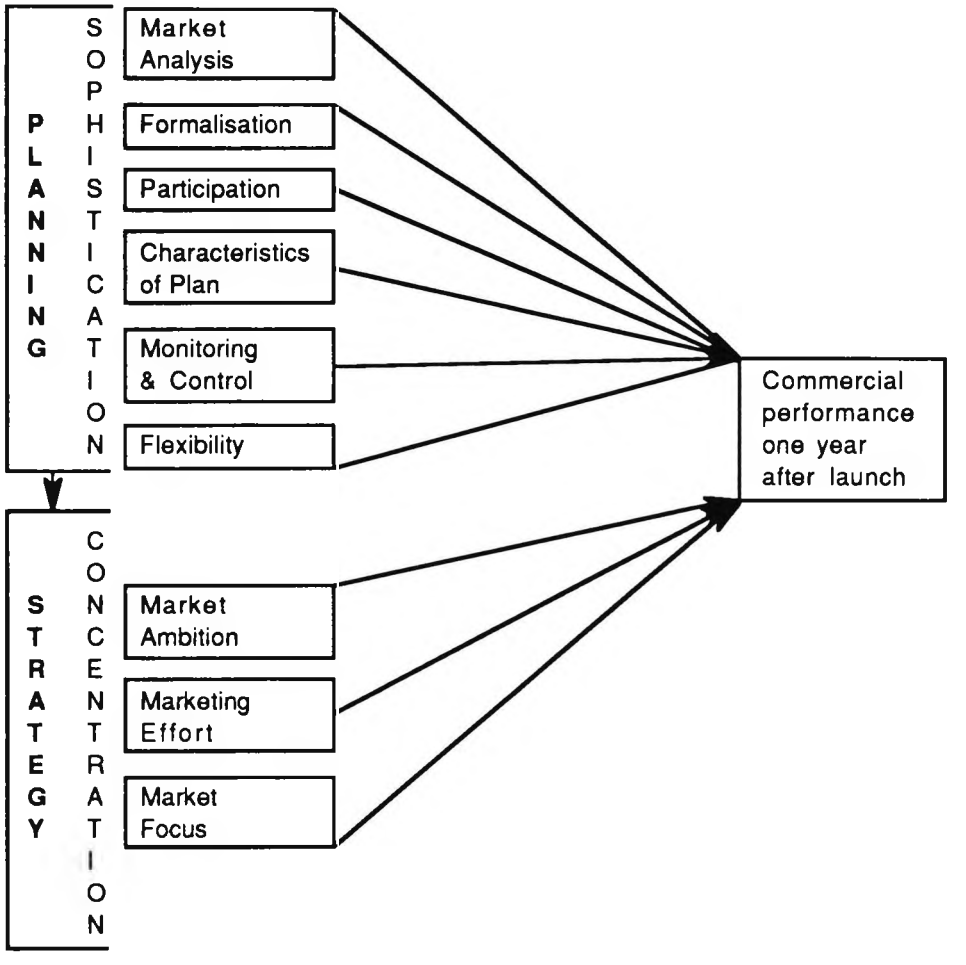
contribution to commercial success is demonstrated. In addition it is shown that in the majority of industrial situations (eg whether selling a distinctive, systems type product or a commodity) launch planning can be equally beneficial. From this follows statements of the research questions and the associated working hypotheses. In particular it is hypothesised that more successful new product launches are allied to more sophisticated launch planning procedures and more concentrated (or focused) marketing strategies.

Chapter Four is concerned with painting in the fine detail of the research and is devoted to justifying the tertiary hypotheses. In this process, models are developed that allow us to explore the role of the contributory elements of planning sophistication and marketing strategy concentration. This is illustrated in Figure 1.4(b). opposite.

It can be seen that the planning process is hypothesised to consist of six contributory variables - market analysis, formalisation, participation, characteristics of the plan, monitoring & control, and flexibility. The more pronounced any one of these variables (as defined in Chapter Four) the more sophisticated the planning. Similarly, marketing strategy is a composite variable consisting of - market ambition, marketing effort, and market focus. The greater the degree of each variable the more concentrated the strategy.

Figure 1.4(b).

The Impact of the Component Elements of Launch Planning 'Sophistication' and Marketing Strategy 'Concentration' Upon New Product Early Commercial Success



Together, these variables impact upon the dependent variable adopted in the research. The logic for using the degree of 'commercial success (achieved) one year after launch' is that this is a measure that realistically reflects the acumen with which the planning is conducted and the resultant launch strategy implemented. The variable, a multi-attribute measure, is substantiated in Section 6.3., albeit to report here that both practitioners and academic evidence provided support for its validity.

At the end of a description of the literature review it is appropriate to ask - 'how widely applicable is the model of the phenomena'? In answer - 'It was developed with major and subordinate objectives, designed to reconcile the need for rigorous controls and wide validity'.

The major objective was to ensure that the model was strongly supported by literature taken from the NPD high-tech / electronics canon. The purpose was to ensure a high degree of confidence in the resulting hypotheses. As such, attention is drawn to the research that explicitly draws from the high-tech / electronics industries. In consequence, we believe that the credibility of the model, because of its industry specific basis, is high (also enhancing the validity of the construct measures - section 6.6.1.).

The subordinate objective was, within the limits of the experimental design, to allow a wider research constituency to be addressed. Fortunately, there is no evidence to suggest that the approaches adopted to NPD in the electronics industry are unique. In consequence, the literature reviewed is also drawn from the wider industrial marketing field - which in the more catholic surveys utilise samples drawn from across the spectrum of industries.

The industry specific and the more general literature were indeed mutually supportive and it is therefore reasonable to propose that our research findings will be applicable in the broader church of business-to-business marketing.

The issue of 'generalisability' is pursued in the next Section, which begins with a brief justification and overview of the industry and business type selected for the fieldwork. There follows an outline of how the survey data was tested against the hypothesised relationships.

1.5. RESEARCH METHODS ADOPTED IN THE STUDY

Whilst the field research could have sampled a wide range of industries and innovation types, an early decision in formulating the research design was to restrict the investigation to a single industry, and within this the mid-sized manufacturing firm. The reasons are now outlined.

1.5.1. The Industry Chosen for the Survey

The industry chosen as a source for sample companies was the UK electronics industry. It was selected because of its importance to the national economy and its extensive innovative activity - reflected in the relatively high R&D expenditure (PA Consulting Group, 1988). A typical ratio in electronics of R&D to gross output is about five percent - comfortably above the criteria set to define a high-tech firm of 20% above the UK manufacturing average of two percent (Butchart, 1987 - Appendix 5.2.).

In addition to its all-pervasive influence the industry is, perhaps surprisingly, a success story. This makes it potentially a useful exemplar of best NPD practice in dynamic environments. In terms of market growth the UK as a whole has been a (relatively)

satisfactory area in which to manufacture electronics products. In real terms the electronics market has grown at 9.4% per annum between 1976-86, above the average of 8.9% for this sector in the leading industrialised countries. In contrast, general UK manufacturing output over the same period has expanded at 8.4% per annum (NEDO, 1988). But the growth in electronics output has not been without its problems. Three major difficulties have been encountered. First, output-growth and exports have lagged behind market growth, leaving the UK with a yawning £3.9bn trade deficit in 1988 - a 40% deterioration since 1984 (Financial Times, 1/4/89a)! Second, much of the expansion in production has been created by foreign owned multinationals rather than indigenous companies. Third, the UK industry has an 'unhealthy' focus upon defence electronics. Indeed this is the only area where UK companies (five out of ten) feature prominently in the European top ten companies (Economist, 4/3/89a).

However, closer examination of industry data shows that whilst larger companies may have turned in a lackluster performance, at the Lilliputian end of the spectrum it is an effervescent story. Evidence from the USA and UK suggests that smaller firms are relatively more innovative (Ettlie & Rubenstein, 1987; Pavitt et al, 1987) and that higher R&D intensity is positively correlated with sales growth (Morbey, 1988). These smaller high-tech firms may therefore grow to become tomorrow's leaders, invigorating an industry that has failed, so far, to live up to expectations.

The type of company identified as of particular interest is the so called 'mid-sized' firm. These firms, based on US criteria have turnovers of from $25m to $1bn or in UK terms some £10m to £600m. Their contribution to the economy is disproportionately large in terms of such measures as growth in sales, employment, capital spending, net income etc and return on investment (Clifford & Cavanagh, 1986), yet their promotion to the 'big league' is fraught with difficulties. A study by Modiano & Ni-Chionna (1986) of UK electronics companies revealed that very few mid-sized firms manage to break the £200m turnover barrier to become significant international players. Indeed, only Racal has emerged in the past 15 years. These researchers identified a range of complementary factors that improve the chances of success eg technological excellence, a focus on products / services that avoid direct competition with larger competitors, a high proportion of overseas sales and organisational characteristics that foster flexibility and innovation. Of particular interest to this research being the importance of continued organic growth (rather than acquisition) through the rapid development and introduction of new products. As such, these smaller companies - vehicles of innovation - provide the opportunity to study NPD under circumstances that could be a model for best practice throughout much of manufacturing industry.

1.5.2. Analysing the Research Results

The approach adopted in the research is the hypothetico-deductive method in which a series of null and alternate hypotheses were developed. The primary hypothesis proposed that

the more sophisticated the launch planning process the greater the commercial success of a new product. Additionally, the related role of the 'realized marketing launch strategy' was the subject of a second order hypothesis - stating that the more concentrated the marketing strategy the greater the early commercial success.

The hypotheses were tested in the field amongst a representative sample of electronics companies using an *ex post facto* research design (Tull & Hawkins, 1990). Within each firm a senior marketing respondent nominated a single successful product launch to serve as a case example. Each company's approach to new product launch planning and marketing strategy was evaluated by means of a semi-structured questionnaire.

Using a measure of new product commercial success at the end of the first year as the dependent variable, the sample launches were arranged in order of relative performance. For the purposes of analysis they were then first divided into three groups of 'very successful', 'successful' and 'least successful' launches and second into two equal sized groups of 'successful' and 'less successful' launches.

The analysis was conducted in three main stages. Firstly, the separate impact of both launch planning and realized marketing strategy were evaluated in terms of their relationship with product performance. In each case the 'very successful' company products (top one-third) were compared with the 'least successful' company products (bottom one-third) using the Student 't' test. Secondly, this analysis was repeated, but with comparisons made

between 'successful product' launches (top 50% of sample) and the 'less successful' product launches (bottom 50% of sample) using both the 't' test and the Man-Whitney *U* test.

The reason for adopting this approach was to evaluate the robustness of the results. Comparing the top and bottom thirds of the sample serves to highlight important differences in launch practices. But equally, it is necessary to test whether these relationships hold good when the middle ranking launches are included in the analysis. Further, this method of assessment enables us to compare the statistical validity of the results with different assumptions made regarding the population, sample and scale characteristics ie the parametric 't' test is more rigorous than the non-parametric *'U'* test.

Finally, using two-way ANOVA with interaction, the combined impact of launch planning and realized marketing strategy was evaluated in terms of their relative and combined impact upon new product commercial success.

1.6. MAIN FINDINGS

The research findings bear out the main proposition of the Thesis. Launch planning is better understood as a broad construct that should be studied in terms of both the initiation (pre-launch) and implementation (post-launch) phases. As operationalized in the research design, it was found that the extent and type of launch planning for a new product is an important contributor to the commercial success of that product. But it is not just planning

per se that matters, rather it is the 'sophistication' of the launch planning process that impacts upon success. Consequently, it is insufficient to simply have a formal planning system. The great majority of companies did **NOT** have highly formal systems. Indeed these can be impediments to success because bureaucracy can corrupt and slow down decision making. However, a certain degree of formality appears to be a necessary condition for better performance because systematisation provides the glue to hold the process together. But formality should be allied to a more open approach to planning where various stakeholders in the success of the new product (inside and outside the firm) are involved. In this way 'ownership' of the plans are shared amongst the key 'players'. Similarly, continuity and consistency in planning are sustained over the initiation and implementation phases by ensuring that whoever develops the original plan has responsibility for seeing it into effect.

More successful new product commercial performance is also typified by a more adaptable launch planning system. This is heralded in the initiation phase of planning by more extensive market analysis, whilst during the implementation phase of planning there is correspondingly greater flexibility - but within anticipated margins.

The study has therefore demonstrated that a more sophisticated planning process (consisting of market analysis, formality, participation, plan characteristics, monitoring & control and flexibility) is significantly associated with the early commercial success of newly launched products.

In addition, the research examined the relative importance of the plan's content, or more specifically the realized marketing strategy developed during the planning process. It was found that a more 'concentrated' marketing strategy (measured as a combination of the 'ambitions' of the strategy, the effort put into the marketing 'mix' elements, and the degree of market focus) also had an influence upon commercial performance. But, contrary to expectations, it was planning that had the more significant impact. The reason for this appears to be that many firms follow broadly similar marketing launch strategies. What really makes the difference is how well the launch is planned and implemented and this is critically dependent upon the planning process.

However, additional analysis demonstrated that some of the contributing sub-variables to 'marketing strategy concentration' were strongly associated with success eg the extent of 'marketing effort'. The impact of a 'concentrated' marketing strategy is therefore better understood at the level of its component sub-variables.

Following the analysis of the separate influences of both launch planning and marketing strategy upon the early commercial success of new products further tests were undertaken of their combined impact upon performance. From the review of the literature it was anticipated that the best performances would be achieved when more sophisticated planning and more concentrated strategies were found in conjunction. However the results of the study did not refute the null hypothesis (using parametric and non-parametric tests). A combination of more 'sophisticated launch

planning' and a more 'concentrated marketing strategy' was not found to be significantly associated with superior new product commercial success. This was an unexpected result. But in retrospect it is explicable. All of the companies were describing 'successful' launches. In a decade (1980-89) of considerable market turbulence they were 'survivors' and an important industry 'recipe' for success is one of market concentration / focus. Consequently, most of the firms were employing similar strategies.

1.7. PLAN OF THE STUDY

A plan of the research, outlining the structure of the Thesis, is presented below. It is followed by a brief description of each of the main areas covered.

PART I	RESEARCH OVERVIEW	Chpt 1:	Introduction.
PART II	LITERATURE REVIEW	Chpt 2:	Contribution of the Launch Phase to Successful NPD.
		Chpt 3:	The Importance of Launch Planning.
		Chpt 4:	The Model Utilised in the Research.
PART III	THE RESEARCH PROCESS	Chpt 5:	The Industry Sampled.
		Chpt 6:	The Research Method.
PART IV	DATA ANALYSIS & EVALUATION	Chpt 7:	Analysing the Research Findings.
		Chpt 8:	Discussion and Conclusions.

Following this introductory Chapter (**Part I**) the research divides into three further parts.

The main purpose of **Part II** is to review the literature, from which the hypotheses to be tested are developed. An overview has already been provided in Section 1.4., so suffice it to say that this is accomplished in Chapters 2, 3 & 4 - which progressively focus and refine the scope of the research.

With the hypotheses developed, **Part III** sets out the research process. Chapter 5 justifies the choice of the high-tech electronics industry as the population from which the sample of companies was drawn and it is shown that a single industry study does not limit the general relevance of the findings. There follows in Chapter 6 an explanation of the choice of the dependent variable. This leads to a discussion of the research design, and in particular the means by which the case examples were selected, screened and investigated. The validity and reliability of the measurement constructs is also explored.

Finally, **Part IV** analyses and discusses the results, making recommendations for the improvement of launch planning practices. This is undertaken in two stages. Chapter 7 centres upon the quantitative analysis, although this is informed by the qualitative responses. The statistical association of launch planning and marketing strategy with the dependent variable (new product commercial success at the end of the first year after launch) is tested. An analysis is also undertaken of the combined impact of planning and strategy upon performance.

The implications of the results are discussed in the final Chapter, which incorporates a mini-case study - an exception

'proving the rule'. Practical and theoretical recommendations are made, informed by the qualitative interview results. These are set out in Appendices 8.2(a). & (b). which respectively provide a verbatim account of best practice in launch planning and a 'plan for planning'.

PART TWO

THE LITERATURE REVIEW

CHAPTER TWO

THE CONTRIBUTION OF THE LAUNCH PHASE TO SUCCESSFUL NPD

2.1. PURPOSE AND OVERVIEW

This Chapter justifies the chosen topic of the research, showing that the effectiveness of 'new product market launch' is an important determinant of early commercial success.

It begins with an evaluation of the main routes to corporate development. The empirical evidence indicates that organic expansion, in contrast to joint venture or acquisition, is the preferred path for most companies to achieve sustained growth.

There follows a review of the major factors, subject to management control, that contribute to new product commercial performance. A study of the NPD literature reveals that new product success is dependent upon four key factors - (i) strategies for corporate innovation, (ii) the execution of the NPD process, (iii) the new product's attributes as perceived by potential customers and (iv) the marketing strategies employed to launch the product. Each of these factors is evaluated utilising literature drawn from a wide span of research traditions. In the course of the analysis it is shown that the commercialization stage in NPD is an important contributor to the success of new products. However, as a subject for research, commercialization and in particular the product launch phase, has been largely neglected in favour of the 'front-loaded' activities eg the pre-development stages.

Whilst the importance of the earlier aspects of the NPD process are not disputed, there is no good reason to expect that the later stages are any less important. Indeed, there are several

studies that suggest that the commercialization stage has a particularly strong influence upon new product commercial success. Further, from a 'contrarian' perspective, when the spotlight falls upon the 'front-loaded' stages, now is the time to examine those that are 'aft-loaded'. In support of this view, research demonstrates that the launch phase of NPD is a statistically significant contributor to new product commercial success, ranking in importance alongside any of the other phases. Additionally, work that has addressed this activity found that project leaders cited 'market launch' as especially difficult to accomplish effectively (Gupta & Wilemon, 1990), and it is this aspect of commercialization that is our research topic.

As the subject of our research, and to avoid ambiguity, the launch phase is defined - as a prelude to modelling its impact upon launch success. The model illuminates how four factors - the 'Product Attributes' (F1), the 'NPD Process' (F2), 'Launch Planning' (F3) and the 'Marketing Strategy' (F4) - impact upon the launch outcome. The model serves to remind us that success for new product launches is a function of many variables although in an effective research design it is undesirable to try and 'measure everything that moves'. As such, it is explained how, with Factors 1 & 2 controlled, the research goes on to measure the influence of launch planning and marketing strategy upon the dependent variable - 'new product commercial success one year after launch'.

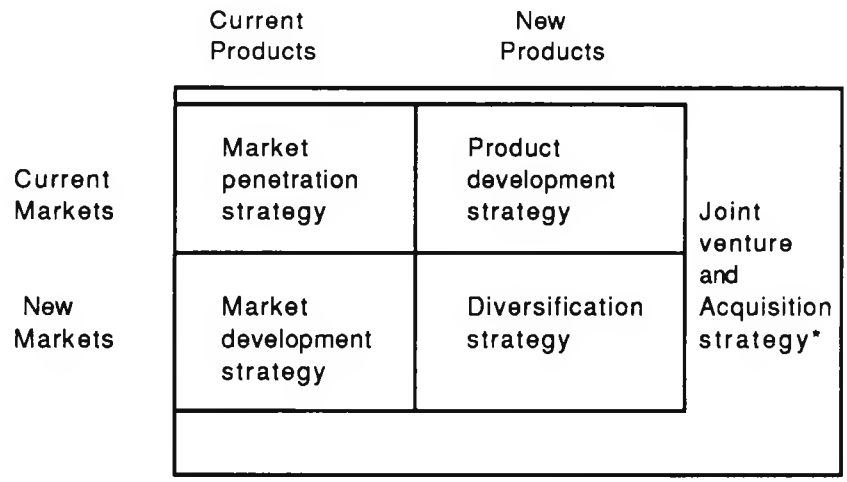
2.2. METHODS OF CORPORATE GROWTH

In this opening Section the two main alternatives to organic corporate growth are examined. This 'scene setting' is undertaken to demonstrate that it is internally generated innovation that is most pertinent and fruitful for the successful organisation.

A corporation has three fundamental choices for growth. It may grow organically, or through joint venture or acquisition. These choices are portrayed in an adapted version of the well known 'Ansoff Matrix' -

Figure 2.2.

Corporate Growth Opportunities



* Superimposed on the Ansoff model (1957) by the author.

Commencing with joint ventures, the evidence is not altogether favourable. Kogut (1988) summarised the research evidence addressing the extent to which joint ventures were

'unstable' (ie ownership by one party passed 50 or 95%, or one party sold their stake, or the venture was liquidated) or 'unsatisfactory'. These terms cover a range of definitional problems (eg objectivity of data, age of venture, location of 'parents' etc), but regardless of category, joint ventures were 'failing' in 30 to 60% of cases.

Porter (1987) pronounced a similar verdict. Of the 33 major US corporations that he studied, about 50% of their joint ventures were divested. However, joint ventures also pose an additional risk, amusingly portrayed in the salutary parable of the chicken and the pig -

> The chicken and the pig met for negotiations on a joint venture and out of the talks was born the idea of ham and eggs. Initially the two were very pleased with the idea, but suddenly the pig became uneasy. "This is all very well," he said, "but while you keep on producing eggs, I end up dead". The chicken smiled knowingly. "That's all right", he said, "that's the way with joint ventures".

This tale was told by Eberhard von Kuenheim, BMWs chairman, to a Japanese audience. The story carries conviction bred of success, and is supported by additional European evidence. At a conference organised by INSEAD (reported in the Financial Times, 9/9/87) speakers attested to the long term perspective of Japanese corporations, in contrast to the short term, defensive and expedient view of many European and US corporations. Gary Hamel of the LBS reported that Japanese companies seek to learn from the joint venture experience, and have in place organizational procedures that facilitate this process. Their overseas collaborators do not.

For acquisitions, the empirical evidence of their dangers is even stronger. Regardless of the success criteria utilised (accounting, economic, financial or managerial) most studies have been at best fifty : fifty regarding the probability of success (Financial Times, 1/6/86a). In the research cited above, Porter (1987), also found that only related acquisitions have a reasonable chance of succeeding (ie a 50% success rate, in contrast to unrelated acquisitions with only a 26% success rate). A parallel study by McKinsey & Co (reported in the Financial Times, 4/3/88a) reached a similar conclusion - with an overall 60% failure rate. Indeed, only Franks & Harris (reported in the Financial Times, 24/7/86b) have found that acquisitions (by UK companies) pay, on average, for both the shareholders of the acquiring and acquired companies. But their study only covered a two year period after acquisition, unlike Porter's and McKinsey's work which evaluated the final takeover outcome. The evidence is therefore strongly supportive of the view that the acquisition route to growth is very risky.

More specifically, the research of Modiano & Ni-Chionna (1986) found that for high-tech, high growth, mid-sized UK companies, diversification / acquisition policies are beset with dangers, and they often founder. Similarly, Roberts (1976) in a study of 250 US medium sized enterprises concluded that technology based NPD growth strategies were preferable to acquisitions / mergers ....

'Medium size companies should not leap into merger / acquisition fever in order to grow .... The smaller firm has a distinct advantage in aggressively pursuing a strategy dominated by the exploitation of technological innovations, but maintaining its market-tuning.'

Further support also comes from Boag & Dastmalchian (1988) who undertook a specific study of 'Growth Strategies and Performance in Electronics Companies'. They concluded that of the four quadrants in the Ansoff Matrix 'diversified strategies are less effective and efficient than other strategies'.

These findings suggest that for growth companies, the organic path to prosperity is the preferred strategy. Whilst joint ventures and acquisitions have a role to play, both are fraught with difficulties - not least of which can be the errosion of the fundamental expertise that powers the expansion of the business.

As a summary, the 1987 results of the ubiquitous Porter are set out below -

Table 2.2.

The Relative Success Rates of Joint-Ventures, Acquisitions and Start-Ups Amongst Major US Corporations

Joint Ventures %	Acquisitions %	Start-Ups %
50	45	58

Source: Porter (1987), adapted by the author.

From these results it is apparent that the external sources of

growth have a relatively higher failure rate. Start-ups are more successful with about 60% succeeding, and are in effect new businesses built around the launch of a new product. It will also be recalled from Section 1.2. that the average success rate for new industrial products has been found to average about 70%.

2.2.1. Innovation and New Product Development: The Subject of this Study

The balance of the available evidence suggests that (mid-sized) companies will enjoy greater success when following growth strategies that favour internal product development rather than joint ventures and / or acquisitions. This is not to say that joint ventures or (related) acquisitions are always inappropriate. Indeed Porter (1987) found that related acquisitions were often successful. The problem is that such opportunities are relatively rare and still overlaid with integration difficulties.

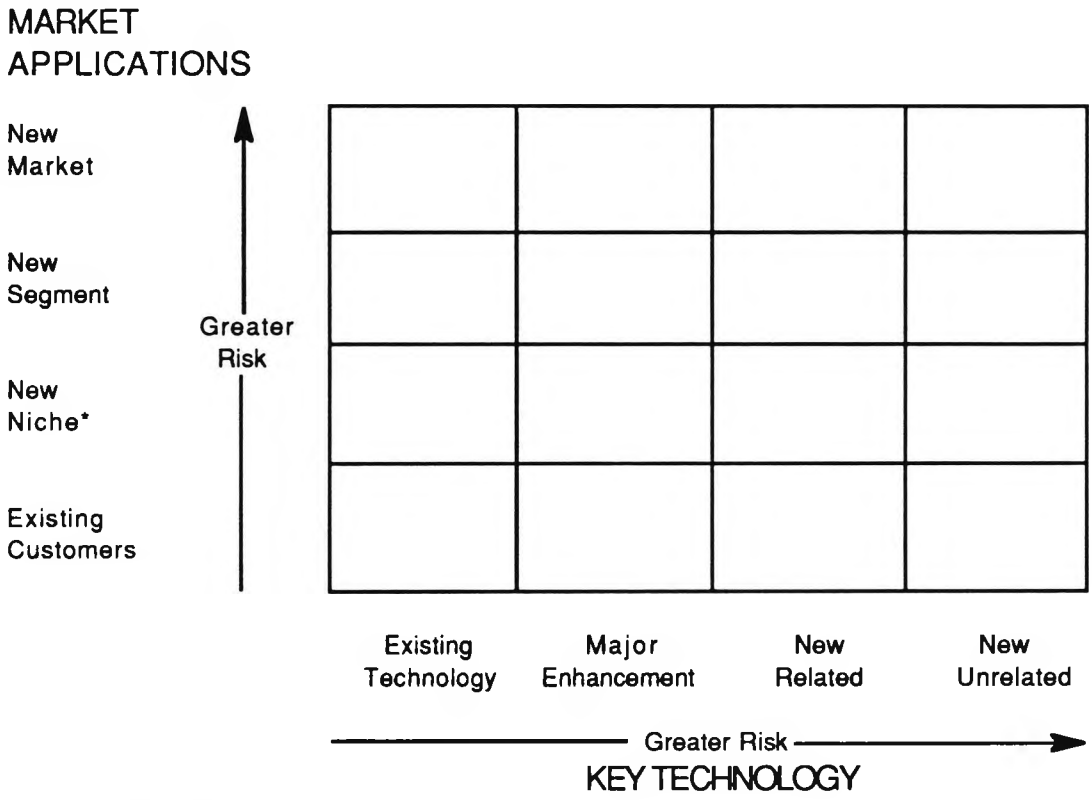
In the light of these findings, the organic path to growth is the avenue of enquiry followed in this research. However, it is still necessary to identify what 'type' of innovation represents the most fertile area for investigation. A schema for analysing this problem is developed from the work of Adams (1982), Meyer & Roberts (1983, 1986 & 1988) and Johne & Snelson (1988a), and is set out opposite.

A comparison with the Ansoff matrix shows that this representation of product / market opportunities emphasises organic development, although the upper right hand quadrants of

the matrix are also associated with joint ventures and acquisitions. Product developments are evaluated in terms of their technological newness, and market developments in terms of market-niche / segment newness. The newer the technology and market the greater the risk of failure.

Figure 2.2.1.

Market and Technology Options for NPD



* 'New Niche' within the existing customer base - a reflection of the developing market over the PLC.

Source: Meyer & Roberts (1986) - 'The Product Innovation Grid'.

Empirical support for this proposition comes from several studies. Adams (1982) found that smaller UK engineering firms had greater new product commercial success when sticking to known markets, familiar distribution channels and known technology. New

products into known markets were also found to be a more successful strategy than existing products into new markets. Similar results were observed by Boag & Dastmalchian (1988) in their study of electronics companies growth strategies. Unrelated product development was the least successful strategy whilst market development was the most successful. Meyer & Roberts (1986) came to a similar conclusion in their analysis of new product strategies in smaller high-tech firms. However they were explicit in the introduction of the 'technology newness' dimension. They found that companies with greater 'strategic focus' (ie more restricted degrees of technological and market development) enjoyed faster growth than companies following more diverse NPD programs. Technology change was again seen to be a more successful strategy than market change.

This research indicates that innovation opportunities are best pursued in areas of related technology, directed towards existing customers. From the findings of studies that have identified the significance of user 'initiated' innovation (eg Parkinson, 1985; Voss, 1985; von Hippel, 1988; Foxall, 1989) the result is hardly surprising. Additionally, it suggests that an investigation of new product launch planning should concentrate upon innovative activity that occupies the middle ground of 'new niche / segment' and 'major enhancement / new, related technology'. The rationale for this is three fold. Firstly, exploratory 'launch planning' research should focus upon the type of innovative activity that yields the greatest benefit to companies. Secondly, more common and profitable NPD practice has a greater likelihood of revealing successful planning activities. Thirdly, by

investigating the 'middle ground', findings should have relevance for adjacent innovative developments. Related to this is also the practical research consideration that respondent companies should not find it too difficult to nominate suitable NPD projects.

Because of these analytical considerations, corporate growth is studied in the thesis from the perspective of new product development rather than joint venture or acquisition. Further, within the NPD 'universe', the research examines innovation embodying 'related' technology developed for existing or market extensions.

2.3. KEY SUCCESS FACTORS IN THE NEW PRODUCT DEVELOPMENT (NPD) PROCESS

The previous Section justified the selection of the subject for the research. In this Section the main topic is identified amongst the various contributory elements to the commercial success of a new product. To this end the concept of 'critical success' factors (Boynton & Zmud, 1984 and Leidecker & Bruno, 1984) instrumental in achieving a 'sustainable' competitive advantage (Coyne, 1986 and Ghemawat, 1986) is employed. In the search for competitive advantage, 'critical success' factors are defined as those 'few manageable factors that are key to the successful commercial performance of a new product'. As such, critical success factors are viewed as marketing related 'inputs' undertaken in the pursuit of the 'output' of relative competitive advantage, measured as successful performance in the introductory and early growth stages of the product life cycle. It is these

contributory elements (critical success factors) to NPD output that are now identified and justified. This is accomplished in three main stages: First, the more comprehensive literature that has dealt with success factors in NPD is summarised in tabular form. Second, these studies are reorganised and tabulated as a means of demonstrating the research support for each of the critical success factors. Finally, the factors are confirmed by reference to more specific research.

The analysis takes as its starting point the NPD literature review undertaken by Lilien & Yoon (1989). In their study the authors sought to identify the determinants of new industrial product performance. They classified the relevant research into three main groups according to the research focus ie research that concentrated upon 'the reasons for success', 'the reasons for failure' and 'the discriminants of success or failure'. Of these categories only the latter will be employed here. The reason for using this 'filter' is that the first two approaches fail to establish whether the identified attributes are actually *discriminators* between success *or* failure. Lilien & Yoon also usefully classify the various studies in terms of whether they are concerned with 'controllable' or 'uncontrollable' variables. Because of the nature of this research, focusing upon processes within the control of management, only research identifying controllable variables is cited.

Using these criteria, the original Lilien & Yoon literature survey has inevitably been pared. However, it has also been supplemented by more recent studies and the inclusion of work

omitted by the researchers. For the purposes of easier identification and analysis the studies have been tabulated below -

Table 2.3(a).

A Summary of the Research Findings Concerned with the Managerially Controllable Determinants of Industrial New Product Success and Failure

Researcher(s)	Key Findings for Product Success
Rothwell et al., (1974) Project SAPPHO	Strength of management. Marketing performance. Customer understanding. R&D efficiency. Market communications.
Utterbank et al. (1976)	Ease of marketing product advantage. Competitive stimulus. Product relevance to customers. Product urgency to innovating organisation. Patent protection. Top management initiative / support.
Cooper (1979) Project NewProd I	Product uniqueness / superiority. Market knowledge & marketing superiority. Technical & manufacturing proficiency plus synergy.
Calantone & Cooper (1981)	Successful new products were classified as - (1) Synergistic, close to home; (2) Innovative, superior; (3) Old, simple; (3) Synergistic, new to firm; (4) Innovative, high-tech; (5) Close to home, 'me too'.
Cooper (1983b)	The NPD process stages are best undertaken in parallel rather than sequentially. A 'Balanced and Focused' process, incorporating more stages, is the most effective.
Maidique & Zirger (1984)	Better matched to user needs. More effectively planned. More efficiently developed. Closer to the firm's areas of expertise. Launched earlier.
Cooper (1985)	The most successful strategy is - 'Balanced and Focused' ie Technologically sophisticated, innovative and strongly market oriented.
Yoon & Lilien (1985)	Distinguished between 'new' & 'old' product development. Both were more successful with greater marketing (advertising & distribution) efficiency. 'New' product launch can be slightly delayed, whilst 'old' product launch should be undertaken as soon as possible.
Baker et al (1986)	At the program level: Greater experience in production & marketing. Top management involvement. Clear goals. R&D / marketing interaction. At the project level: Business / project fit (synergy). R&D / technology interaction. Less project complexity. Resource availability. Patent protection.

Continued ....

Researcher(s)	Key Findings for Product Success
Cooper & Kleinschmidt (1986) Project NewProd II	Successful products have more comprehensive and proficiently accomplished NPD processes.
Cooper & Kleinschmidt (1987a & b)	Three definitions of success employed - 'Financial Performance', 'Opportunity Window', 'Market Impact'. Common determinants of success were - Product superiority; Project definition & 'up front activities'; Marketing & technological synergy. Generally, controllable factors are more important to success than situational or environmental factors.
Link (1987)	Better launch execution. Greater synergy with existing products. Fuller market intelligence. Greater novelty and quality of the product.
Bronnenberg & van Engelen (1988)	Product superiority & uniqueness. Economic advantage of product to adopter. Technical resource synergy. (A threshold test of NewProd I)
Cooper & Kleinschmidt (1988)	More man-days and cash spent on each of the stages of NPD.
Calantone & di Benedetto (1988)	More effort and skills given to marketing / research and technical activity. Better product launch and product quality.
Johne & Snelson (1988b)	Distinguished between 'new' and 'old' product development. Utilising the 7Ss found that successful product development is characterised by - A strategy for innovation; Top management support; A favourable culture; Efficient planning, market research and execution of the NPD tasks; Multi / cross functional NPD teams.
Zirger & Maidique (1990)	Higher quality R&D organisation. The technical performance of the product. Value of the product to the customer. Synergy of product to firms competences. Top management support for NPD and product launch. Competence of the marketing and manufacturing functions.
Cooper & Kleinschmidt (1991)	Evaluates the benefits to leading industrial firms of adopting a more formal (stage-gate) approach to NPD. Found general improvements in both the process eg speed, and market performance eg profitability.
Dwyer & Mellor (1991a & b)	Examined relationship between organizational characteristics (the 7Ss), the proficiency with which the NPD phases are conducted and product success. Found 'Skills' to be more frequently associated with the different NPD phases. Overall, greater success associated with a more proficient and comprehensive NPD process.

As a means of better understanding these results, they have been reorganised into four main groups of critical success factors.

The classification was suggested through content analysis and guided by *a priori* assumptions. The factors have been named - 'Strategies for Corporate Innovation'; 'Organisational Design and Process'; 'Product Attributes' and 'New Product Marketing Strategy', and the research supporting each of these descriptions is tabulated below -

Table 2.3(b).

The Controllable Critical Success Factors for NPD and the Supporting Literature for Each

Critical Success Factor	Supporting Literature
STRATEGIES FOR CORPORATE INNOVATION	Utterbank et al (1976), Maidique & Zirger (1984), Cooper (1985), Baker et al (1986), Johne & Snelson (1988b), Zirger & Maidique (1990), Dwyer & Mellor (1991a & b).
ORGANISATIONAL DESIGN AND PROCESS	Rothwell et al (1974), Cooper (1979), Cooper (1983), Maidique & Zirger (1984), Baker et al (1986), Cooper & Kleinschmidt (1987a & b), Bronnenberg & van Engelen (1988), Cooper & Kleinschmidt (1988), Calantone & di Benedetto (1983), Johne & Snelson (1988b), Zirger & Maidique (1990), Cooper & Kleinschmidt (1991), Dwyer & Mellor (1991a & b).
PRODUCT ATTRIBUTES	Utterbank et al (1976), Cooper (1979), Calantone & Cooper (1979), Maidique & Zirger (1984), Cooper & Kleinschmidt (1987a & b), Bronnenberg & van Engelen (1988), Zirger & Maidique (1990).
NEW PRODUCT MARKETING STRATEGY	Rothwell et al (1976), Cooper (1979), Maidique & Zirger (1984), Yoon & Lilien (1985), Baker et al (1986), Link (1987), Calantone & di Benedetto (1988), Zirger & Maidique (1990).

From the evidence cited above it can be concluded that the 'commercial' success of a new industrial product is powerfully influenced by four key factors. Firstly, the product is part of a

clearly articulated and planned innovation strategy, strongly supported by top management. Innovation is part of the business ethos or culture. Secondly, the NPD process is comprehensive or 'well-rounded', accomplished by an integrated, multi-functional project team. The NPD stages are conducted in parallel rather than sequentially. Thirdly, the product is unique / superior to competitive products and better meets customer needs. Finally, the new product marketing strategy is well planned and executed, out distancing the competition in terms of support with a 'sharply' focused effort.

In the following sections success factors are confirmed and explored in the light of the research literature that *specifically* evaluates each of the contributory elements to new product commercial success. The analysis is conducted in terms of a logical progression extending over the four key (controllable) variables. (i) Innovation should start with a corporate strategy for NPD acting at the program level. This establishes the direction for innovation and the parameters of NPD. (ii) Within these parameters specific projects are undertaken. The stages which make up the NPD process are evaluated. (iii) From the NPD process there emerges a new product. The attributes of successful new products are 'weighed'. (iv) Finally, the new product is introduced to its market. The 'ingredients' of the marketing strategy are examined.

In the course of this evaluation, the 'Launch Phase' as a topic of study is reinforced.

2.3.1. Strategies for Corporate Innovation

Strategies for innovation may be sub-divided into those for technology and those for product development. By this is meant that innovation has two major components usually subsumed under the R&D heading. This important differentiation is clarified by Lorenz (1990) who castigates governments and corporations for not distinguishing the 'R' (research) from the 'D' (development) aspects of innovation. Whilst technological strategy is about research into 'enabling' technologies, development is skill / asset based (McGee & Thomas, 1989). However, successful products depend upon an integration of these two related strategies.

Strategies for Technological Development

The need for the strategic management of technology is graphically illustrated in Foster's book 'Innovation: the attacker's advantage' (1986). Numerous examples are cited of how corporations can become wedded to obsolete technologies. Other companies, often without the shackles of past investments, come to market with advanced new products and supplant the industry leader. To reduce the dangers of such strategic blunders Foster counsels the incorporation of technological 'vision' into corporate strategy. More recently, McGee & Thomas (1989) have undertaken a broad analysis of the relationship between technology and strategy. After surveying a range of research perspectives (economic, production, decision process, entrepreneurship and strategy) the authors conclude that a firm's technology investments (research) are akin to entry 'fees' for the acquisition

of highly differentiated intangible assets - a base from which product-market selection and product development takes place. Development starts with different skills and involves the capture of existing knowledge to meet specific market needs. Research decisions are therefore of a different kind from development decisions, with the former involving greater risk and longer time-scales. Development work may also be carried out by firms that have not been involved in the basic research.

In addition, knowledge acquisition and product development involve different personnel and information & control systems. During the research stage the primary issue is one of 'confidence' over the *decision* to commit resources to technological change. But during development the primary issue becomes one of 'emergence', focusing much more upon the internal processes for carrying technology into the market. However, as McGee & Thomas (1989) argue, the most successful companies will be those that forge stronger intra-organisational linkages between technological research and product development

As such, in high-tech businesses (especially dependent upon new technology) there is a critical requirement that the 'R' factors are melded with the 'D'. Without these essential ties there is a significant risk that technological efforts will be misdirected and / or major market opportunities lost. To achieve this end a strategy for technological research and / or acquisition has to be developed that reflects the business's capabilities and the market's requirements. This said, it needs to be recognised that technological change is so hedged with uncertainty that strategy

paradigms are especially difficult to pin down. In a study of UK companies Clarke et al (1989) found that 'strategic technology planning' amongst sampled firms was ill-defined and more akin to that of Mintzberg's (1988) 'strategy as perspective' model than 'strategy as plan'. These distinctions are pursued further in Section 3.3., but at this point it is relevant to observe that it is only to be expected that the greater the uncertainty the more open the strategy making process. The corollary being that this very uncertainty places a premium upon undertaking research within a strategy defined context whereby technology and marketing are coaligned (Capon & Glazer, 1987).

Strategies for Product Development

Whilst technological development is about 'know-how', product development is about embodying this know-how into marketable products or services. The importance of linkage has been identified above. In each case, strategies for technology and product development are best managed as related, balanced portfolios. In the NPD context this means that NPD projects are weighed in the context of broader 'program considerations'.

Johne & Snelson (1990) identify the important differences that distinguish high achievement innovators from lower achievers (high achievement equals three year domestic sales growth for a business in a product / market that is greater than that of its major competitors). Utilising a range of organisational process factors, classified by the 7Ss (Strategy, Structure, Systems, Skills, Staff, Style & Shared Values) typology (Waterman, Peters &

Phillips; 1980), they found significant differences between the two groups on the 'strategy' dimension. The 'high achievers' were more likely to have explicit and proactive NPD strategies covering broader span programs ie from product improvements to radical innovations - reflected in their organisational procedures for each type of innovation. This portfolio approach to NPD programs, in which risk and return is balanced across a range of projects, is also counselled by Goodall et al (1989). They advocate a strategy led, rather than a tactical project-by-project approach to innovation.

Cooper (eg 1984 & 1985) provides a useful guide to the most appropriate type of product innovation strategy for an industrial manufacturing company to pursue. He identified five strategy types - 'Technologically Driven'; 'Balanced & Focused'; 'Technologically Deficient'; 'Low Budget, Conservative'; and 'High Budget, Diverse'. But of these only 'Balanced & Focused' was found to be 'highly successful' (a composite success measure), although it should be made clear that the actual *intention* by any of the sampled firms to plan and implement such a strategy was implicit rather than explicit. This reflects the nature of the research, relying upon a battery of scales subsequently factor analysed and subjectively interpreted. But corroborative evidence is also forthcoming from Zirger & Maidique (1990) in a specific study of US electronics companies. They found that 'strategic focus' was a key determinant of the financial success of new products.

Additionally, building upon his earlier work and that of Crawford (1980), Cooper (1987) makes a strong case for companies

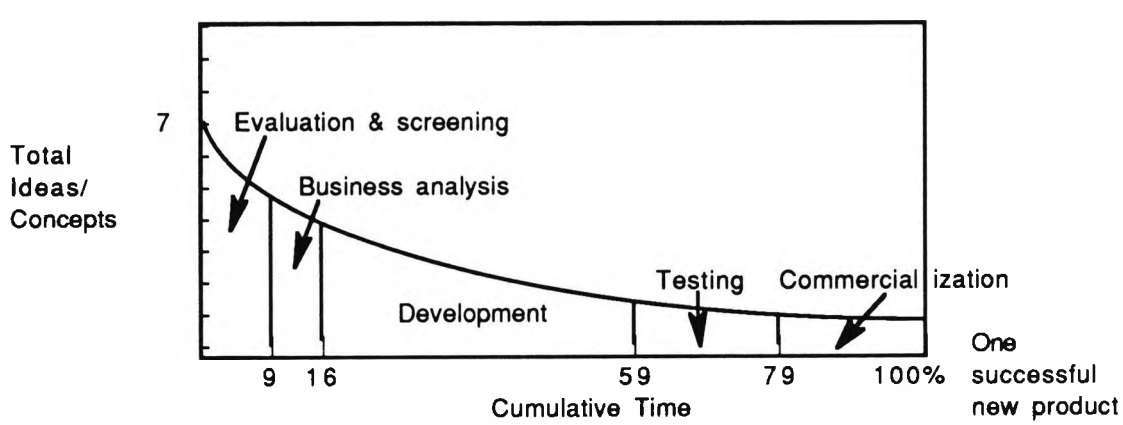
to spell-out their 'product innovation charters' in which the NPD program is clearly linked to corporate strategy. As such we may conclude that a clear corporate direction for product innovation is vital for the success of new product programs.

2.3.2. The Execution of the New Product Development Process

With the guidance of a strategy for innovation an organisation is better able to embark upon an NPD program - balancing risk against return. Within the framework of this program, choices have to be made regarding the manner in which projects are to be managed. In this section the importance of the various stages in NPD are 'weighed' with the intention of gauging the significance of each stage - rather than exhaustively examining component activities. Typically, this process is associated with the model of Booz, Allen & Hamilton (1982) -

Figure 2.3.2(a).

Stages in the NPD Process and the Mortality of Ideas



Source: Booz, Allen & Hamilton (1982).

The model shows the main stages of the NPD process. But as an average representation it provides no clue to the most appropriate balance between the stages that could help facilitate a successful NPD outcome. However, Cooper (1983b), as part of his extended NPD study, evaluated the association between the various stages actually undertaken by firms and the success of new product projects. The most successful of the NPD processes was that termed 'Balanced & Complete'. This was referred to in section 3.3.1. and had a 71% product success rate - in contrast to the least successful process (termed 'Design Dominated') with only a 40% success rate (with an overall sample mean success rate of 52%). However, this finding needs to be interpreted in the light of the more recent, complementary research of Hise et al (1989). They found that the 'commercial success' of new industrial products is closely related to the completion of a simultaneous, seven stage product **design** process (further reference to the importance of 'design for manufacturability' and launch planning is made in Appendix 8.2.[a]. in which respondent comments are reported).

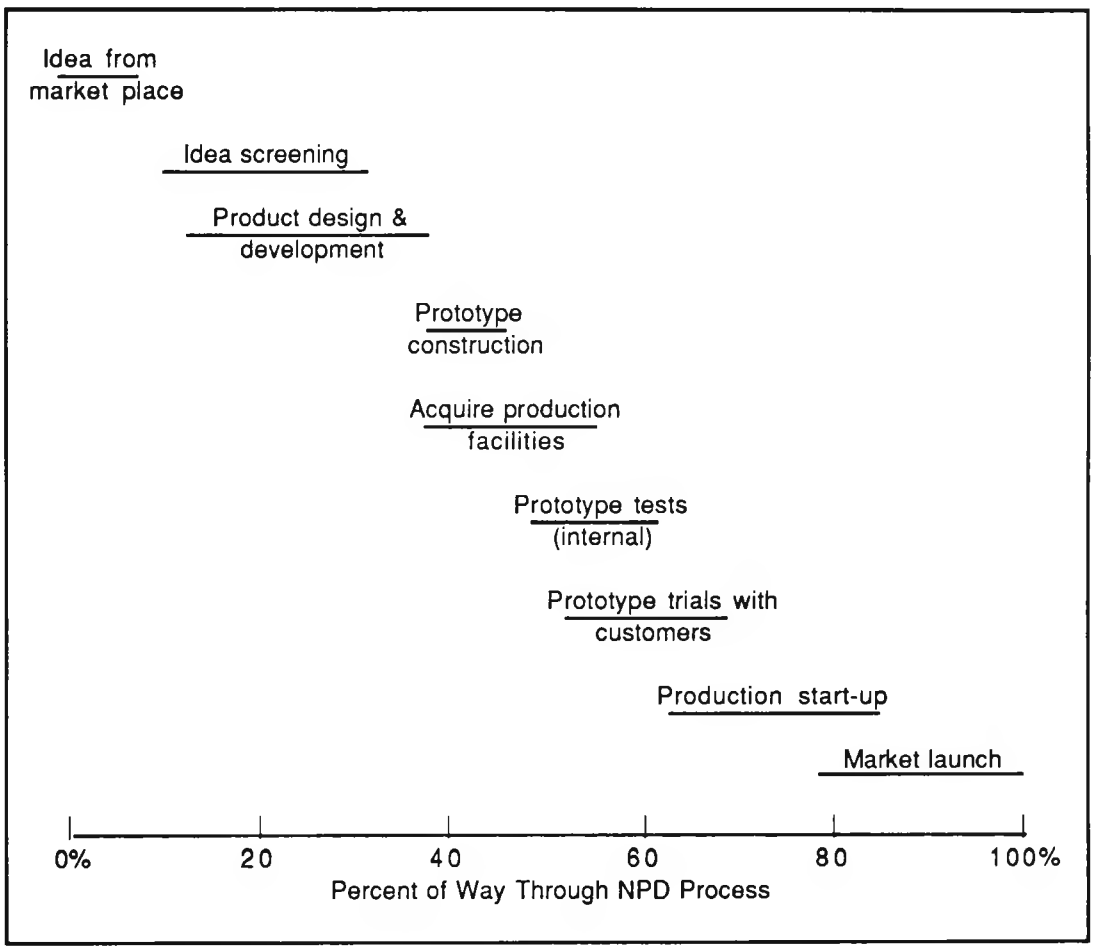
The 'message' from these findings is that the NPD stages need to be 'balanced', but the incorporation of a full design process is equally important - an issue not resolved in Cooper's work. With this in mind, the 'Balanced & Complete' process is set out opposite as the best comprehensive model yet available.

It will be seen that the stages identified by Cooper do not correspond exactly to those of Booz, Allen & Hamilton (Figure 2.3.2[a].), although covering much the same ground and developed from the same research tradition. However, it is not at all clear in

either study what is meant by 'commercialization' or 'market launch'. In particular - "at what point does (true) 'market introduction' begin and 'development / market testing' cease?"

Figure 2.3.2(b).

The 'Balanced & Complete' NPD Process



Source: Cooper (1983b).

The Booz, Allen & Hamilton study implies that 'commercialization' extends into the market place, incorporating a 'realistic' measure of success or failure. In contrast, Cooper seems to imply that 'launch' terminates with the new product's market introduction. These issues are explored in Section 2.4 dealing with 'commercialization and launch'.

Of particular interest in Cooper's findings is the way the various stages overlap ie run in parallel. This is reminiscent of the pioneering study of Takeuchi & Nonaka (1986) who widely publicised the value of simultaneous or overlapping NPD stages. The significance of this approach is that it can dramatically reduce time to market and thereby substantially improve new product profitability. Simultaneous NPD stages also place a premium upon employing multi-functional project teams.

Souder (1987) observed similar organisational arrangements and he identified three approaches to NPD. These were categorised as - 'Stage', 'Process' and 'Task' Dominant models. What distinguishes these three models is that the 'Stage' model is functionally dominated and typified by clear 'hand-over' points - the 'classic' sequential approach. But, 'Process' and 'Task' models do not have discrete hand-over points, although 'Process' models are still organised on a functional basis. 'Task' models however, have multi-functional teams and correspond to Takeuchi & Nonaka's 'rugby team'. Unlike, these researchers, Souder also goes on to evaluate the relative contribution of the three approaches to the success of the project (defined as '.... the perceived difficulty of meeting the commercial objectives set for the project, ie, meeting the users requirements and achieving the financial and market share goals'.).

Souder's results are tabulated opposite and indicate that the 'Task' dominant approach to NPD is the most successful. Further, the more 'complex' the technology and the less 'sure' the organisation of its capabilities the more effective the

Table 2.3.2(a).

The Relative Effectiveness of Three Organisational Approaches to the NPD Process

NPD process category	**Ease of meeting commercial objectives** (% success in each category)
Stage dominant	46
Process dominant	52
Task dominant	**74**

Source: Adapted from Souder (1987) - Table 13-4.

'Task' dominant approach.

Thus far, the cited research evidence has suggested that successful project outcomes are associated with more comprehensive NPD processes, in which the various stages are undertaken in parallel by multi-functional teams. Additionally, it is important to know how financial and time resources are best distributed over these stages. Cooper & Kleinschmidt (1988) have addressed these issues, building upon the work of Mansfield & Rapoport (1975) and Booz, Allen & Hamilton (1982). However, only Cooper & Kleinschmidt examined the problem at a project level, making comparisons between successful and unsuccessful outcomes. They divided the NPD process into three main stages, within which various activities or phases are to be found. These are set out below, followed (overleaf) with a table showing their results.

(i) **Predevelopment Activities:** Initial screening; Preliminary market assessment; Preliminary technical assessment; Detailed market study; Predevelopment business analysis.

Continued ....

(ii) **Product Development & Testing:** Product development; In-house product tests; Customer tests of product.

(iii) **Commercialization:** Trial sell; Trial production; Pre-commercialization business analysis; Production start-up; Market launch.

Table 2.3.2(b).

A Comparison of Key Resource Allocation Over the Main NPD Stages: Successful Versus *Unsuccessful* Projects

Main Stages		Key Resources: Money ($'ooo)	Key Resources: Time (man-days)
Predevelopment Activities	Successful	70	176
	Unsuccessful	*34*	*102*
Product Development & Testing	Successful	370	610
	Unsuccessful	*223*	*472*
Commercialization	Successful	633	228
	Unsuccessful	*107*	*179*

Source: Cooper & Kleinschmidt (1988).

These findings show clearly that successful projects have both more money and time spent on them over the three main stages - although only the differences in dollar expenditure are statistically significant (at the 0.05 level). Of most interest are the relatively greater sums spent on the commercialization stage of successful projects. Cooper & Kleinschmidt rationalises this in terms of management's recognition that the unsuccessful projects are destined to fail. Hence expenditure is cut, but proportionately more manpower (soft dollars) is put in as a desperate last ditch

effort. This might be true, despite the contradictory evidence shown by the significantly different levels of *absolute* manpower effort. Alternatively, the result may simply be a powerful argument in favour of the PIMS findings (eg MacMillan & Day, 1986) that successful new products have more marketing money and effort expended on them over the launch period. Certainly, in their 'Implications for Managers', Cooper & Kleinschmidt state that 'A strong market orientation is missing in the typical industrial new product project' .... *and that* .... 'Managers of successful projects committed far more dollars and manpower to marketing activities than was the case for failing products'.

2.3.3. The Customer Perceived Attributes of Successful New Products

This approach to NPD analysis is derived from the 'diffusions of innovation' tradition explored by Rogers (1962 & 1983). He established that potential customer perceptions of the attributes of an innovation have a significant impact upon its adoption. Five factors were identified: (1) relative advantage, (2) compatibility, (3) complexity, (4) trialability and (5) communicability, with Ostlund (1974) subsequently adding an extra factor - (6) perceived risk.

For a range of high-tech consumer and business products, Holak (1988) found that the most important contributors to product success were the 'relative advantage' and 'compatibility' of the product to existing usage patterns. The greater the 'perceived complexity' and 'risk of product adoption' the more likely rejection.

In a subsequent analysis, Holak & Lehmann (1990) confirmed these new product attributes as the most important predictors of innovation adoption. 'Compatibility' with existing usage patterns was the key variable upon which product developers should work. Additionally, the perceived 'relative advantage' of a product can be enhanced by offering advanced features that serve to counter the negative impact of 'complexity'.

More generally, researchers undertaking studies designed to identify the important factors in NPD commercial success have also found that product attributes are very significant determinants. In NewProd I, Cooper (1979a) writes that "The single most important dimension leading to new product success is 'Product Uniqueness' and 'Superiority'. Unique, superior products were typically *highly innovative and new to the market* ...." *

In NewProd II, Cooper & Kleinschmidt (1987a & 1990) support this finding, writing that .... 'Product superiority is the number one factor in success' (1987a). Whilst a comparison of NPD 'kills' versus launch successes and failures (1990) again demonstrated that 'product advantage is critical to new product success, although such measures are difficult to use during product evaluation'.

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* **Note**: This finding stands in contrast to other findings from NewProd I, reported by Cooper. For example, Cooper (1979b &1980) states that the proficiency of product launch is the most important discriminator between new product success and failure (cited in section 2.4.1.). There are several possible explanations for these 'contradictory' results. (i) The 1979a findings were based on ANOVA, whilst the 1980 study employed factor analysis - a 'dubious' technique according to Eherenberg (1978). (ii) Researchers may interpret results according to their pre-conceptions. (iii) A combination of factors (i) & (ii).

But, in a Dutch test of NewProd, Bronnenberg & Engelen (1988) have been able to introduce a screening procedure into project appraisal - demonstrating, once again, that product superiority and uniqueness is *'the'* most important discriminator between commercial success and failure (but as the discussion in section 8.4.1. makes clear, this emphasis [at the expense of process factors] may be a result of the research design).

Lastly, from the electronics industry, Maidique & Zirger (1984) and Zirger & Maidique (1990) have found that products offering superior customer performance and value are more likely to succeed.

However, as a coda to these findings it is important to note that the unique qualities of new products are not (necessarily) obvious to prospective customers. These qualities have to be communicated in a planned and effective way, and as Farris & Reibstein (1979) found, businesses that follow consistent and complementary advertising, pricing and quality strategies reap the reward of greater profitability. The emphasis is upon planning and strategy to capitalise upon a product's advantages, and in the next section we move on to review the contribution and ingredients of marketing strategy to success.

2.3.4. Marketing Strategies for New Products

Utilising PIMS based evidence suggests that once the decision to 'go' has been made, successful launches have a higher level of resource commitment. Whilst the market share and profit

relationship is weak during the growth phase, this is the time to seek market leadership. As Prescott et al (1986) have indicated, heavier marketing expenditure 'buys' share which can subsequently translate into profitability. Similarly, Wagner (1984) and Buzzell & Chussil (1985) provide evidence to suggest that persistently spending more on marketing and R&D than competitors can lead to an increase in market share. More specifically, PIMS studies that have examined the introduction of new products (MacMillan & Day, 1986 and Guiniven, 1986) have found that marketing 'investments' - the outlays for aggressive spending, judged relative to competitors, on advertising, sales promotion, the sales force and product service quality - can be outstripped by gains in revenues if rapid share gain is achieved. However, Morrison & Tavel (1982) have introduced a note of caution. Their findings led them to conclude that many businesses often over-spent during new product introductions, and more practised innovators, by spending less, were subsequently enjoying a higher ROI. But it should be noted that the more successful firms were *experienced* innovators with relatively broader product lines and higher product quality.

The timing of market entry has also been identified through the PIMS data base as an important determinant of new product success. Robinson & Fornell (1986) found that companies (industrial & consumer) consistently acting as market pioneers (ie first to market) achieved, on average, sustainable market share advantages. At a more specific new venture or project level similar conclusions have been drawn by Lambkin (1987 & 1988). She found that the order of entry into a market is systematically related to competitive performance - moderated by the strategies

Table 2.3.4.

Key Marketing Strategy Factors for Launch Success: Derived from PIMS Research

STRATEGY FACTORS	FAVOURABLE TO SUCCESS	UNFAVOURABLE TO SUCCESS
MARKET ENVIRONMENT		
Real Market Growth	High	Low
Number of Competitors	Few	Many
Number of Immediate Customers	Few	Many
Product Importance to Customer	Low	High
ENTRY STRATEGY (Relative to the Competition)		
Market Leadership	Pioneer	Late entrant
Share Objectives	High	Low
Production Capacity	High	Low
R&D Expenses	High	Low
Marketing Expenses / Effort	High	Low
Product Line Breadth	Broad	Narrow
Product Quality	High	Low
Product Price	Higher	Lower
Product Value	High	Low
Direct Costs	Low	High
Customer Services	High	Low

Source: Hobson & Morrison, 1983; MacMillan & Day, 1986; Lambkin, 1987.

followed by the business unit. Overall, pioneers achieved greater market share. Typically, these firms had entry strategies that were on a grander scale ie product lines were wider, market coverage was broader and manufacturing capacity greater. As for competitive strategy - relative marketing expenditure, product quality and customer service were all (again) found to be higher.

The PIMS findings for launch strategies have been summarised by Hobson & Morrison (1983). They evaluated the contribution of marketing variables to new product performance by their impact upon 'success' and 'failure'. The main features of their model, adapted to incorporate the later results cited above, is set out on the previous page.

Success in Table 2.3.4. was measured in terms of market share, ROI and ROS after four years. Although this time scale is rather long for some high-tech products it should be noted that the results from this research show that the average time to 'sales peak' was about 30 months, with break-even achieved in about 16 months. In addition, the more ambitious and successful firms achieved a significantly greater market share *in a shorter period of time than the less successful firms.* However, whilst MacMillan & Day (1986) reported a significantly better ROI for firms following the 'favourable' route, Lambkin (1988) found that firms adopting the 'unfavourable' path had significantly better ROSs. But this contradictory result does not detract from the message of the 'favourable' strategy route. The best time to gain advantage for a new venture or project is at the introductory stage of the life-cycle when an aggressive launch strategy can more easily buy market share. Subsequently, market leadership should yield greater ROI and ROS dividends - whether this is achieved within four years is dependent upon the scale of investment required and the speed to break-even.

2.4. THE TOPIC OF THIS RESEARCH: THE LAUNCH PHASE IN NPD

In the previous Section a range of controllable factors have been identified that are instrumental in securing the success of new products. These factors were corporate technology / NPD strategy, the NPD process, new product attributes and the implemented marketing launch strategy. In this Section it will be demonstrated that amongst these factors the topic of 'new product launch' is a neglected but important activity, making a significant contribution to the success of new products.

From a conceptual perspective 'launch' stands at the fulcrum of NPD. It links NPD program and project strategies, insofar as the program strategy (implicit or [preferably] explicit) sets the agenda for the resultant projects and their entry into the market. Further, within the NPD process, launch is that 'moment of truth' when the 'just' completed product is introduced to and tested in the 'wider world'. Additionally, whilst an 'ordinary' product can be salvaged by good marketing practice, the best product can be sunk by indifferent marketing (the 'better mousetrap' syndrome).

In the light of these observations, the next section reviews the literature that has attempted to measure the importance of the launch phase in the NPD process.

2.4.1. Defining the Launch Phase in NPD

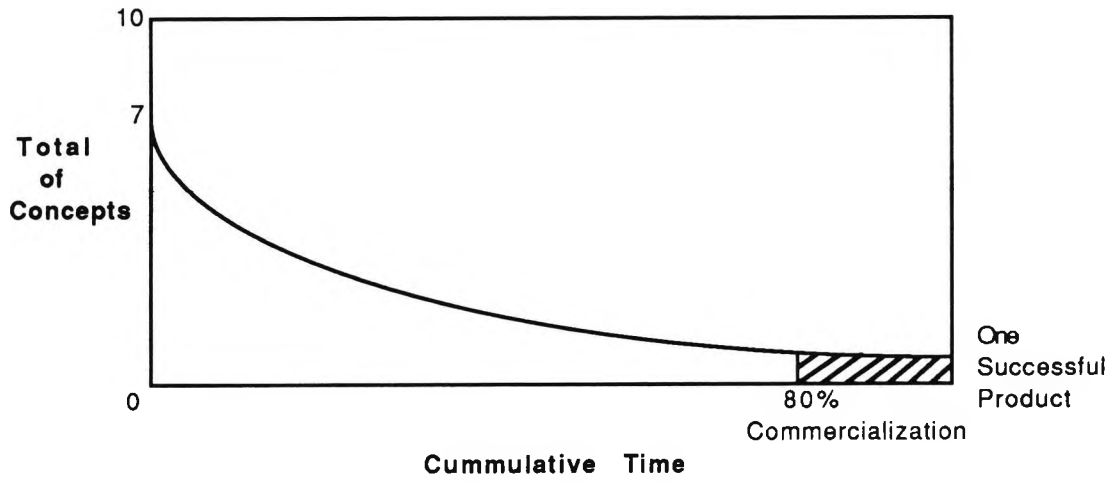
Surprisingly, few researchers have specifically evaluated the relative importance of the various stages of the NPD process to the

early success of new products. This said, Nevens, Summe & Uttal (1990) - McKinsey consultants - writing in the Harvard Business Review, identify the skills of high-tech product commercialization as a key to competitiveness in the 1990s. But, these practitioners use the term 'commercialization' in a very broad sense.

Unfortunately, guidance from the academic literature is limited and none of the references cited in the bibliography provide an 'off the shelf' working definition of 'commercialization' and 'launch'. However, by identifying the components of commercialization and how launch fits into this stage it is possible to develop a definition of 'market launch'. The 'standard' Booz, Allen & Hamilton (1982) reference to the stages in NPD places the launch phase in 'Commercialization', which occupies about 20% of the NPD process and is illustrated below -

Figure 2.4.1(a).

Locating the Commercialization Stage in the NPD Process



Source: Booz, Allen & Hamilton (1982) - 80% figure rounded.

This figure is very close to Cooper & Kleinschmidt's (1988) results, who found that 'Commercialization' took up 22.5% of the time span in a typical, industrial NPD project. Further, there was little percentage difference in the time devoted to successful and unsuccessful projects (23% versus 24%) although in absolute terms successful projects had much more time devoted to commercialization (228 versus 179 man days out of an NPD total of 1014 and 753 days respectively). **Note**: Insofar as these figures cannot be reconciled with the principles of averaging, it is solely attributable to the data published by Cooper & Kleinschmidt ie they state that 'commercialization' takes up 22.5% of the average time devoted to a project, but the average of 23% and 24% is 23.5%.

Within this stage we can now establish which activities constitute the launch phase. To this end, the operations attributed to commercialization by three acknowledged authorities are identified - tabulated overleaf.

It will be seen that they divide commercialization into two main parallel activities. Following a decision to 'go ahead', one is concerned with setting up production facilities with possibly trial production and selling. The other deals directly with marketing. It may involve additional market analysis in which checks are made upon the viability of the product. This leads into and informs the preparation and implementation of 'marketing launch' plans.

Table 2.4.1.

The Commercialization Stage in NPD:
Identification of the Two Main Activities

Researchers	The Main Activities Identified as Belonging to the Commercialization Stage	
	Production Activities	**Marketing Activities**
Crawford (1987)	Setting up production facilities.	Marketing the product: Planning, Launch, Monitoring & control.
Cooper & Kleinschmidt (1988)	Trial production & selling. Production start-up.	Pre-commercialization business analysis. Market launch.
Kotler (1991)	Setting up production facilities.	Marketing activities: Planning (choice of - Timing, Customers, Introductory market strategy).

A consensus therefore emerges from these researchers observations of the constituent activities within the commercialization process. The first addresses production considerations, whilst the second addresses marketing planning and implementation - an activity designated the 'launch phase' and predominantly concerned with the marketing of the new product.

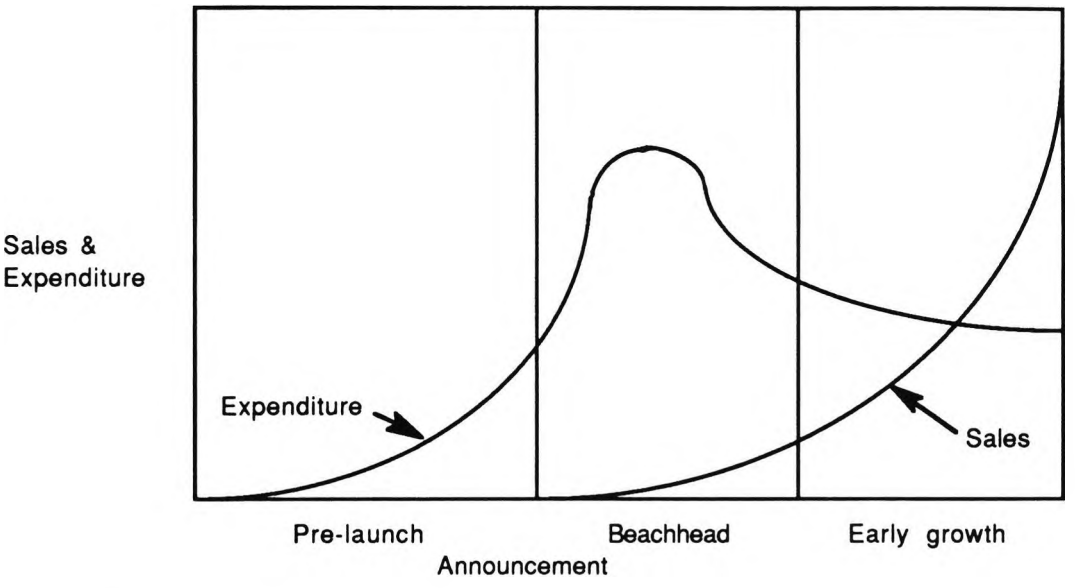
As Crawford (1987) writes -

> '.... the *launch cycle* running from the commercialization decision until the new item is well enough established that it will hold on and grow'.... *has four main stages and* .... 'includes a short time just prior to launch and continues part way through the growth phase. It contains four phases: pre-launch preparation, announcement, beachhead, and early growth.'

This process is set out below -

Figure 2.4.1(b).

The Launch Cycle



Source: Cooper (1987).

These four elements of the launch phase are further divided into:

(1) 'Pre-launch preparation' - Planning & strategy formulation; Building marketing & service capability, Presale promotion and Stocking / availability;

making the -

(2) 'Announcement';

(3) 'Beachhead activities' - the implementation of earlier preparation,

and

(4) 'Early growth' - Post-launch tracking and control.

This demonstrates that 'launch' is an extended marketing activity, rather than just a limited 'point in time' occurrence. The process extends from the preliminary commercial planning stages to beyond the immediate product-market introduction, encompassing both marketing preparation and implementation.

To summarise: comparisons between Crawford (1987), Cooper & Kleinschmidt (1988) and Kotler (1991) show that their views of 'commercialization' are congruent. It consists of two main activities - the establishment of manufacturing facilities and the planning of the product's market launch. Additionally, 'launch' is seen as a process extending 'out' into the market place.

From these considerations a definition of the launch phase in NPD can be set out. It is developed from a marketing perspective and bridges the views of Crawford, Cooper and Kotler -

Definition of the Launch Phase in NPD

> The launch phase encompasses those concluding NPD activities directed towards the market introduction of a new product. It is primarily a marketing driven process insofar as market considerations govern whether production facilities are 'geared-up'. The phase starts with the final marketing evaluation and planning, goes on to the market introduction and concludes with the 'steering' of the product during its early stages in the market place.

2.4.2. The Impact of the Launch Phase Upon New Product Commercial Success

In this section we demonstrate the important contribution made by a proficient launch phase to new product success. In doing so we also show that the omega of 'launch' is as vital to success as the alpha of 'pre-development' activities, an undertaking that is necessary because of recent assertions that imply the pre-eminence of the earliest phases in the NPD process (eg Cooper, 1988).

An estimate of the importance of the launch phase can be gleaned from its duration relative to the total time spent on NPD. For this evaluation two studies are used. In 1983(b), Cooper reported that for the 'average' project, where 'market launch' was acknowledged as a seperate phase, it occupied 37% of the entire process. This seems remarkably long and is undoubtedly biased by a cluster of projects - termed 'The Minimum Process' - where market launch occupied 80% (!) of the time. This can be contrasted with the most successful group - 'Balanced and Complete' - where market launch took up 22% of the time (Figure 2.3.2[b].). In a second study, Cooper & Kleinschmidt (1988) found that for successful and unsuccessful projects the market launch took up respectively 8% and 5% of the total time given to the NPD process. These figures stand in stark contrast to the results of the earlier work and it would appear that 'market launch' was used synonymously with 'commercialization' in the first study (NewProd I).

As such, the findings of the second study, distinguishing between 'commercialization' and 'launch', are tabulated below. A fascinating relationship is revealed.

Table 2.4.2.

New Product Commercialization & Launch: The Relationship Between Expenditure, Man-days Employed and Market Success and Failure

		SUCCESS	FAILURE
COMMERCIALIZATION	**Man-days**	228	179
	Expenditure ($'000)	633	107 *
Of which -			
LAUNCH	**Man-days**	85	35 *
	Expenditure ($'000)	311	45

* Statistically significant difference between success and failure.

Source: Cooper & Kleinschmidt (1988).

Focusing upon the launch figures it can be seen that significantly more man-days are spent on the launches of successful products than upon failures. Indeed, of the total of 13 identified NPD stages only four (Preliminary market assessment, Preliminary technical assessment, Pre-commercialization business analysis and Market Launch) were statistically significant with regard to the differences between success and failure. However, despite the fact that 'market launch' is the single biggest item of expenditure for successful new products (with the biggest difference between 'success' and 'failure' [$311,000 versus $45,000] of any of these phases) these differences were not statistically significant! But utilising the same data set, Cooper & Kleinschmidt (1986) had previously shown that both the frequency

and proficiency with which the market launch was conducted were significant discriminators between successful and unsuccessful new products. Further, in setting out a 'decision guide for management', Cooper (1988a) highlights the evidence that twenty one percent more successes than failures featured a formal market launch. Allied to this was a twenty percent greater propensity for successes to be associated with a pre-commercialization business analysis.

Cooper & Kleinschmidt (1988) rationalise their findings on 'launch' in terms of - "suspected failure at the commercialization-stage equals greater and more 'desperate' man-power effort, but fewer allocated dollars in recognition of likely failure". Perhaps - but in earlier research Cooper (1983b) found that in 30% of NPD industrial projects the launch phase was not even recognised (though the products were launched). Additionally, the least successful NPD process, designated 'The Design Dominated Process', had a 'low' rating on the 'launch phase' (ie of seven clusters only two had a 'low' rating), thereby implying that the launch activities were significantly undervalued in failed projects. Cooper (1981) also found that of the constituent phases of the NPD process 'market launch' was perceived by practitioners as the riskiest. Additionally, marketing (launch) skills / resources were identified as the most critical / riskiest to the success of a new product. Indeed, writing in 1979(b) and 1980, Cooper reported that of fifteen controllable NPD activities evaluated, the 'proficiency of market launch' was the most important differentiator between new product success and failure (measured in terms of new product 'profitability'). Indeed, in his summary, Cooper (1979b) writes -

> 'Another important dimension not related to success is the Proficiency of the Precommercialization Activities (market assessment, technical assessment, detailed market study, product development, financial analysis). .... The message is that proficiently executing the "front end" of the development process alone is not a condition for success. In contrast, the commercialization phase, or "back end" of the process *was* found to be of particular importance.'

Consequently, Cooper's (1988) assertion from NewProd II, that the 'pre-development activities determine new product success' is contradicted by the results of his earlier NewProd I study, where he also tested the importance of proficiently executing NPD activities. Further, even in NewProd II, the results show that the commercialization stage (and within this the launch phase) is as significant as the pre-development stage and its constituent phases. In conclusion we can therefore say that even though the emphasis given by Cooper to different activities in the NPD process is conflicting, both NewProd I & II support the assertion that launch activities are very important to the commercial success of new products.

More recently, Dwyer & Mellor (1991a) have added weight to the argument that the proficiency with which the launch phase is undertaken is a major contributor to the project outcome. They found that both pre-commercialization business analysis and market launch were significantly correlated with new product sales success. This finding also throws light upon the vexed question of the relative contribution of the different NPD phases to product success. Although the recent emphasis has fallen upon the early stages - a view to which Dwyer & Mellor subscribe - when 'pre-commercialization business analysis' and 'market-launch' are

merged into a single 'launch planning phase' their results indicate that this phase is as significant as the earlier phases.

The bias towards the initial phases could be a function of the greater proportion of early activities represented in the NPD model. Support for this view is forthcoming from Cooper & de Brentani (1991). They studied the contribution of NPD activities to new industrial financial services, and before commenting on their results it is worth noting that with the greater importance of service to high-tech products (Dunn et al 1991) their findings are increasingly relevant to manufacturing firms. The questions were evenly balanced between the different aspects of the NPD process, and of these the quality of the launch execution was found to have the greatest correlation with success (0.434). In contrast, the quality of the pre-development activities had the lowest correlation (0.276).

Similarly, Souder (1987), by changing the perspective, arrives at different conclusions to the NewProd II study. In his research, data specific to the electronics industry is provided. In contrast to Cooper & Kleinschmidt (1988), he showed that successful projects had **less** spent on them than unsuccessful projects, judged against the cost of the average electronics project. Souder does not give figures, but Cooper & Kleinschmidt found for a range of industrial NPD projects, success versus failure was distributed as $1,073,000 : $364,000. The reasons for the discrepancy are not apparent apart from the types of sample compared ie electronics projects versus a range of industrial projects (although a quarter of the latter sample were

electronics / electrical). However, Souder's work is supportive of our interpretation of Cooper & Kleinschmidt's research, and lends additional credence to the main proposition of this section that the launch phase in NPD is an important contributor to new product success. Souder found that electronics projects are 'aft-loaded' on both time and cost ie these projects have (or should have) proportionately more time and money devoted to the 'marketing start-up stage' - synonymous with Cooper & Kleinschmidt's 'market launch' phase.

In support of these findings Booze, Allen & Hamilton (1982) reported that 40% of their sample identified commercialization as the most important step in developing successful new products. More specifically, Gupta & Wilemon (1990) also found that in technology-based firms, 35% of the sample identified product launch as the most difficult to accomplish NPD activity. This finding is reinforced by Link (1987) who in an investigation of industrial companies found that the 'management of the launch execution' was the single most important activity contributing to the success of new product projects. Additional analysis also showed that this finding was independent of industry type ie high-tech firms were as likely to rate launch 'highly' as other firms in the sample.

Finally, Calantone & di Benedetto (1988) measured the interrelatedness of the NPD process variables amongst a group of (largely) high-tech electronics companies. They developed an integrative model of product launch in which the managerially controllable variables were evaluated in a sophisticated

regression analysis. Their results again provide statistical support for the proposition that market launch is an important contributor to new product (financial) success, especially when allied to relatively greater marketing effort.

2.5. A MODEL OF THE IMPACT OF THE MANAGERIALLY CONTROLLABLE FACTORS UPON NEW PRODUCT SUCCESS

Building upon the literature reviewed in this Chapter, and using Calatone & di Benedetto's (1988) model as a template, the key determinants of the commercial success of a new product are shown in a model (Figure 2.5. overleaf) of the managerially controllable factors effecting new product performance. The role of launch activities are high-lighted because of our interest in this area.

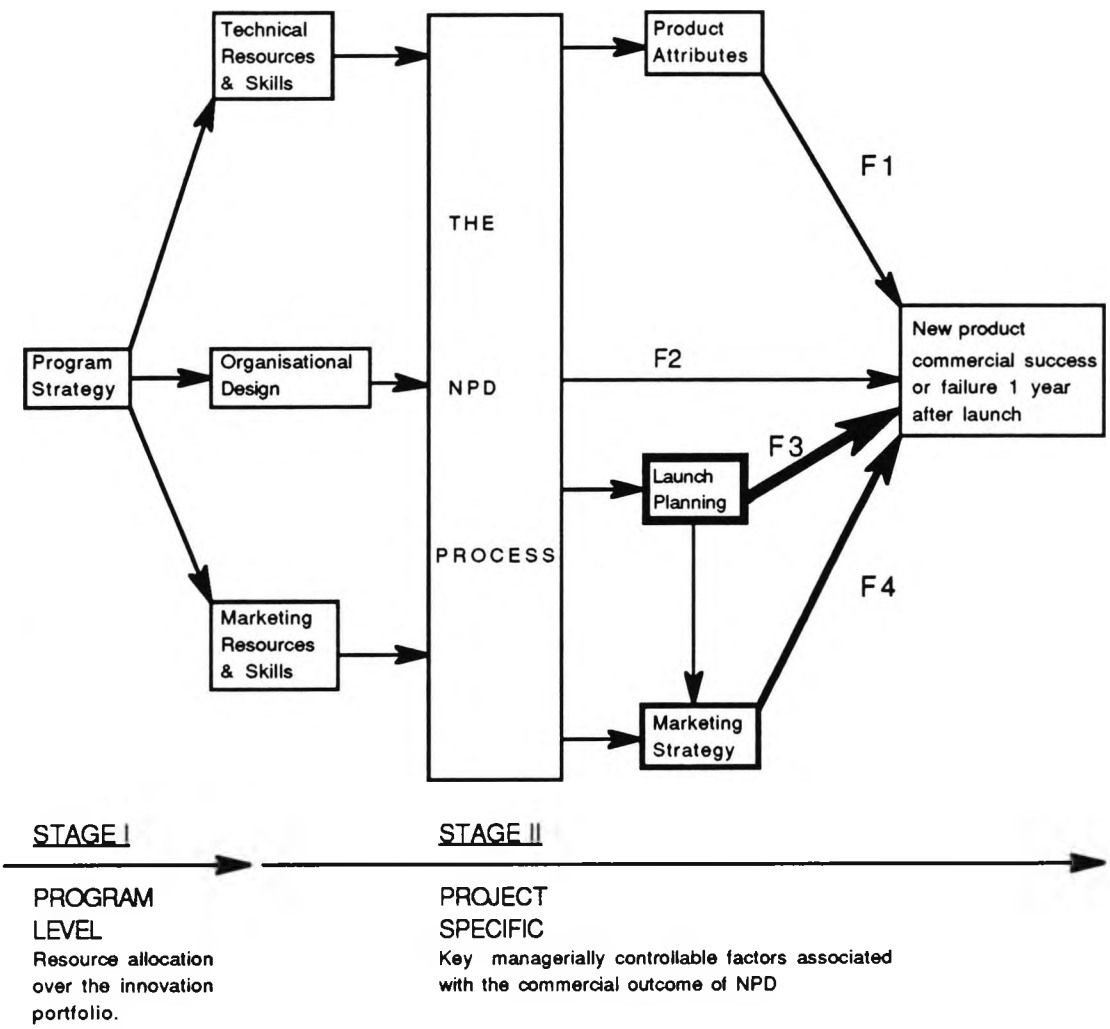
The model consists of two main stages. In the first stage activities impinging upon the NPD process are shown as originating from a program strategy for NPD. This is the responsibility of the business 'centre' - defined at the corporate, divisional or SBU level, depending upon the structure of the organisation. The role of the centre is to plan and orchestrate technical (eg R&D, operations etc), marketing and organisational resources such that they can support a coherent and consistent portfolio of projects - compatible with the firms capabilities (the 4 C's ?).

At the beginning of the second stage the model shows these resources combined to create a unique NPD project. This is portrayed as occurring in the core NPD process - from which

emerge four factors (F1 to F4). These converge upon, and directly influence, the commercial performance of the newly launched product (the dependent variable).

Figure 2.5.

The Contribution of Market Launch in the NPD Process to Successful New Product Commercialization



Source: The literature review plus Calantone & di Benedetto (1988).

Our research focuses upon two of these variables and their impact upon the launch outcome. Consequently, the next section elaborates upon the nature of the dependent and independent variables.

2.5.1. The Dependent and Independent Variables

The review conducted in this Chapter has demonstrated the importance of commercialization in the NPD process. Specifically, the launch phase has been emphasised and it will be shown in the next Chapter that this phase can be divided into two interrelated marketing activities - **launch planning (F3)** and the implemented **marketing strategy (F4)**. As the focus of our research they are shown as the two features of the launch phase that directly impact upon the outcome of the launch and are designated **the independent variables**. In effect they are culmination of the NPD *process activities* - the facilitators of a successful product. But of course, the development of a product is the major tangible objective, and the new product's attributes (F1) are also shown as directly effecting the launch success - although much will depend upon how well these attributes are promoted to the target audience.

The other factor shown as directly influencing the launch outcome is the NPD process (F2) itself. Clearly, its contribution is pervasive - shown to be the source of the other three factors. However, it serves an additional role by virtue of the importance of the timeliness of market entry and the general effectiveness of the participants in the project. Further, a well executed process will permeate the entire 'make & market' operation, directly influencing the early commercial performance of the product.

Four managerially controllable NPD factors (F1 to F4) have been identified as directly influencing the performance of a new

product. Whilst implicitly a measure of 'performance' has served as the dependent variable its *general* features have yet to be spelt out. The emphasis is upon 'general' since in Section 6.3. a rigorous examination is conducted of plausible alternatives, before justifying the choice made. However, thus far it has been clear that **the dependent variable** is a measure of the commercial performance of the new product. 'Commercial' is underlined because our concern is to measure the efficacy of the launch (planning and strategy) and inevitably this should be translated into a market based yard-stick by which the new product's fortunes will ultimately be judged. In addition, our use of 'performance' implies a measure of success - both relative and absolute. 'Relative' because the research design calls for the ranking of the launch outcomes, but also 'absolute' insofar as we need to utilise objective measures that indicate the financial viability / achievements of the product. To this has to be added a time-scale that properly reflects the full impact of the launch undertakings, but without incorporating the influence of subsequent marketing activity. Since the launch plan often looks forward about a year (source: the preliminary fieldwork) - this represents a reasonable cut-off point. Further, given the inevitably lagged response to launch effort, a results 'snap-shot' after twelve months provides a fair reflection of launch achievement.

As a result of these considerations, the outcome of the launch (our dependent variable) is measured as the extent of - 'new product commercial success one year after launch'.

2.5.2. An Overview of the Controls Employed

Directly impacting upon the dependent variable are the four managerially controllable factors previously identified - the product attributes (F1), the NPD process (F2), launch planning (F3) and marketing strategy (F4). However, because our research is concerned to illuminate the role of just two of these, the research design is much simplified if factors one and two are controlled - rather than trying to measure 'everything that moves'. To achieve this the nominated launches were screened to ensure their comparability. All of the development processes, launches and products were considered successful by the respondents. Further, technological novelty and customer type were judged (by the researcher) to fall into the same broad categories. In a more general sense launch comparisons were also normalised because they were industry specific and undertaken in propitious economic conditions (the period 1986-88). Additionally, sample firms were profitably trading, mid-sized, publicly quoted companies - thereby ensuring that they could all bring to bear approximately the same weight of resources upon the NPD process.

Consequently, we can reasonably claim to have ensured that the product launches included in the research are comparable. The launch activities of planning and strategy (the independent variables) are left to vary, thereby reflecting the particular capabilities of the firm on these two dimensions. However, the non launch factors that are managerially determined are used as control filters to ensure, as far as possible, an equitable basis for comparison.

2.6. CONCLUSIONS

The Chapter began by showing that of the three main alternatives to corporate growth, innovation through NPD is more likely to achieve sustained expansion than attempts to grow by joint venture or acquisition. But success in NPD is determined by a variety of factors - and those subject to management control were identified and evaluated. Of these factors, the NPD process became the subject of particular attention. The reason for this focus was that an evaluation of the literature indicated that the 'commercialization' stage was under-researched and under-valued. By way of illustration, Cooper (1988b) has written that 'pre-development activities determine new product success', although his own research shows (Cooper & Kleinschmidt, 1988) that successful and unsuccessful launches are distinguished by significant differences between the man-days employed and the money spent on the commercialization stage.

The assumption that 'pre-development' activities are pre-eminent is perhaps the result of a simplistic *a priori* assumption of a main determinant of NPD success. But such a single minded approach fails to acknowledge that successful NPD is a complex, interrelated process equally dependent upon 'front' and 'aft' loaded activities. Whilst NPD should be informed by market-led evaluation during the earliest stages, it is equally important that new products are effectively introduced into the market place.

Analysis of the literature covering the 'commercialization' stage of NPD established that 'market launch' is a vital contributor to product success. Further, it is this phase of NPD that provides the bridge between corporate innovation strategies, their embodiment during project development and subsequent implementation during market introduction.

'Market launch' has therefore been identified as a critically important topic of study. From the analysis undertaken it is clear that of the managerially controllable variables, launch activities can make all the difference between the commercial success and failure of a new product - and it is this feature of our model that has been highlighted for study.

Consequently, in the next Chapter we move on from the subject of our research to its focus. The two key marketing ingredients of the launch phase are evaluated and 'launch planning' (the primary research focus) and 'launch strategy' (the secondary focus) are both defined. This leads into a justification of the research questions and working hypotheses.

CHAPTER THREE

THE IMPORTANCE OF LAUNCH PLANNING TO EARLY COMMERCIAL SUCCESS

3.1. PURPOSE AND OVERVIEW

The previous Chapter identified and justified the launch phase in the NPD process as an important topic for study. The two main independent variables were also introduced. This Chapter expands upon the rationale for studying planning and strategy together. The two variables - 'Launch Planning' and 'Marketing Launch Strategy' are then defined for the purposes of the research, followed by a review of the literature in which their contribution to launch success is evaluated.

The Chapter begins by describing how the research pendulum has swung back and forth between studies that have focused either on planning or strategy. However, more recent work has speculated that indecisive results regarding the efficacy of these factors (especially planning) arise because their separation is artificial. After all, the specific and direct purpose of planning is to produce a plan (ie a strategy). It is therefore argued that process (planning) and content (strategy) can be fruitfully studied together.

Following the explanation of why the 'fortunes' of planning and strategy are bound together, the Chapter goes on to discuss their 'meaning' - moving from the corporate to the new product context. Definitions are developed in terms relevant to the research questions and the practical implications of the study. It is shown that the planning process has two stages - an initiation (pre-launch) stage during which plans are formulated, and an implementation (post-launch) stage when plans are enacted, with any necessary modifications incorporated in the light of

experience. By implication the (resultant) strategy is a product of what was originally planned and the exigencies of the market-place. This is reflected in our definition of 'marketing launch strategy', in which the term 'realized' is employed to emphasise that whilst planning is essential, an element of expediency is inevitable.

Having defined the phenomena under investigation, it is shown that the impact of these two determinants of new product success is substantial. However, it is also important to know the extent to which our research findings will be applicable beyond the confines imposed by the specificity of industry, technology and customer type. Consequently, the role of planning under different conditions is examined. In studies that have considered the generic approaches to product differentiation and the role / prior experience of customers it has been found that planning is an equally important contributor to product success. As such, it is reasoned that this study of launch planning and marketing strategy will have wide ranging implications.

With the importance of launch planning firmly grounded, the Chapter now moves on to frame the primary and secondary research questions and to state related working hypotheses. By virtue of the relationship between planning and strategy, planning, as the precursor of strategy is designated 'primary' and strategy 'second order'. In the primary hypothesis a more sophisticated approach to launch planning is proposed as an important contributor to new product commercial success. This is followed by two second-order hypotheses. The first proposes that a more 'concentrated'

marketing strategy has a greater likelihood of leading to new product success, whilst the second proposes that a combination of more sophisticated launch planning and a more concentrated marketing strategy results in the highest level of performance.

3.2. THE RELATIONSHIP BETWEEN PLANNING, STRATEGY AND PERFORMANCE

The role of this Section is to discuss how theory has evolved regarding the separate and combined relationships of planning and strategy with performance. Although research has dealt exclusively with policy / corporate level issues it is maintained that because of the strategic nature of NPD the evidence reviewed is of value in the innovation / NPD domain, with particular relevance to the launch planning / marketing strategy relationship.

In the period 1960 - 1975 the focus of strategic management research was upon the planning process. As Hofer (1975) wrote in his comprehensive review of the literature '.... much greater emphasis has been placed on the organizational process by which strategies are developed than on the content of the strategies themselves'. But, between 1976 and 1985 the research emphasis underwent a major shift toward the content of corporate / business strategies and their impact upon performance. Fahey & Christensen (1986) noted '.... during the last decade the change [in the focus of strategic management research] has been dramatic: It is in the area of strategy content that the field has made the greatest progress'. Hence the pendulum of research interest had swung from a strategy *process* to a strategy *content* focus.

However, this dichotomous approach to strategy research fails to capture the interrelationship between process and content. White & Hamermesh (1981) stated the case for such an integration between process and content in research studies, writing -

> 'To date, the theoretical development of these concepts *[process & content]* and the empirical testing of their relationship to performance have proceeded largely independent of one another. As a result, fairly rich theory and a considerable body of empirical research already independently link these concepts to performance. However, strong links and overlaps between the independent variables used by the different schools have gone largely unstudied.'

This challenge was realized by Robinson & Pearce (1988). In their study they sought firstly to evaluate the independent impact of both planning 'sophistication' (also referred to as 'formality') and marketing strategy upon business-unit financial performance. The 97 (smaller: t/o $9m to $69m) firms sampled came from a wide range of manufacturing industries. They found that on the planning dimension firms with a high-to-moderate level of planning sophistication achieved significantly better performance. Measured separately two types of marketing strategy orientation also had a strong impact upon performance. These were 'product innovation / development' and 'brand identification / channel influence'. However, when planning sophistication and strategy orientation were considered simultaneously, firms with the greatest level of planning sophistication and the most effective / consistent marketing strategies were found to be the highest performers. Where strategies were inconsistent (ie varied over a five year period) no amount of planning sophistication could improve performance.

The findings of this study therefore lend considerable support to the proposition that it is appropriate to examine the separate and combined effects of the planning process and strategy outcome upon performance. In doing so it should be possible to establish whether certain approaches to planning and certain strategies lead to better performance. Following from such observations it can also be tested whether there is an association between certain planning process typologies, the implementation of certain strategies and superior performance. Whilst Robinson & Pearce conducted their research at the business-unit level there is no reason to suppose that a similar study cannot be conducted at the level of NPD. As we will see (Section 3.4.), NPD involves both business and launch planning, with launch planning a significant contributor to commercial success. Further, market success is associated with the implementation of particular marketing strategies (section 2.3.4.).

It should also be noted that Robinson & Pearce investigated the *realized* marketing strategy, and this is the aspect of strategy that is identified in the next Section as most appropriate for examination in our research.

3.3. PLANNING AND STRATEGY DEFINED FOR THE PURPOSES OF THIS RESEARCH

'Planning' and 'Strategy' definitions can now be developed. Although the focus is upon functional level activities, corporate activities are also covered in the analysis because of their impact upon NPD success. The approach also ensures that the NPD related

definitions of planning and strategy are compatible with wider corporate activities.

The terms 'planning' and 'strategy' are frequently interwoven. This can lead to a muddle over their precise meaning. Adding to the confusion are a mix of normative and descriptive models. The aim here is to unravel this tangled knot. In consequence, a positive view is taken that the major role of planning is to develop actionable strategies. Whilst it can be argued that firms engage in planning to implement a preconceived strategy, there is a danger of engaging in sterile debate over cause and effect, analogous to the question 'what came first, the chicken or the egg?' That said, it will be noted that a range of cited researchers attribute to strategy a degree of intention or purpose that is derived through planning. For example, in section 3.3.1. both McDonald (1989) and Greenley (1988) describe *marketing* planning as beginning with a statement of objectives. Subsequently, strategies are developed to achieve these objectives. They are saying quite explicitly, based upon empirical evidence, that planning precedes strategy. Sinha (1990) has also shown that at the corporate level the planning system contributes significantly to the most important and risky decisions. Specifically with NPD, Bracker et al (1988) found that for smaller electronics companies a more sophisticated planning process results in better / more profitable decisions. Additionally, their research revealed that it was the planning process, not the plan *(ie the strategy)*, that was the key contributor to performance.

In anticipation of the research findings, it is also pertinent to record that during the field study it became obvious that when

firms engaged in the particular activity of NPD, planning was the precursor of strategy. However 'formal', launch planning was used to identify and select strategy options. Consequently, it is reasonable to assume that in the context of the research, which examines marketing planning & strategy, the outcome of planning will be a strategy for achieving some specified objective(s).

In the following review the approach adopted has been to start with corporate and then move on to functional definitions.

3.3.1. Defining Corporate and Marketing **Planning**

Logically, we should begin with planning since 'strategy' implies purpose and such purpose results from forethought (ie planning), formal or otherwise. In a general sense this research therefore takes planning to be the process by which strategy is formulated - a view supported by Kenyon & Mathur (1991) who are adamant that to have any meaning strategy must be purposive ie planned. From the normative perspective this is invariably seen as a formal activity, and corresponds to Mintzberg's 'planning mode' of strategy formulation (1973).

Using Ackoff's (1970) criteria, planning 'is *anticipatory decision making*', accomplished within 'a *system of decisions* ....' and '.... is a process directed toward producing one or more future states which are desired ....'. Mintzberg (1973) adds three other essential features. In planning *'.... the analyst plays a major role in strategy-making ....'*, it *'.... focuses on systematic analysis ....'* and *'.... is characterized above all by the integration of decisions and*

strategies'. Mintzberg also identifies two other approaches to strategy formation - the 'entrepreneurial' and 'adaptive' modes. However, these alternative modes are not mutually exclusive. It has been found that more successful entrepreneurial firms engage in strategic planning - and that it pays (eg Robinson et al, 1984; Orpen, 1985; Sexton & Auken, 1985). The adaptive mode, subsequently better known as 'logical incrementalism' (Quinn, 1978), was described as an approach to strategy formulation that purposively blended planning skills and behavioural considerations. More recently Quinn (1989) has reviewed the evidence. He states quite explicitly that incrementalism is not anti-planning and that 'extensive formal planning is both possible and highly desirable'. He gives as an example an innovation program stating -

> 'Yet one can plan to advantage; individual projects can be planned in detail, overall sequences can be planned broadly, and technical information, market scanning, and motivational and organizational support systems can be planned with professional thoroughness.'

Similarly, in 'Rethinking Incrementalism', Johnson (1988) finds that planning and analysis are necessary conditions for formulating strategy. From this we can see that across organisational types, researchers, whether from the normative or descriptive schools, concur that planning has an important role to play in strategy development. Additionally, they agree that the planning process is marked by a degree of formality, although the descriptive 'school' emphasise the less formal behavioural components of decision making. It may therefore be stated that planning is a (semi) formal process relevant in a wide range of contexts and organizations. But before stating our definition we

also need to establish the range of activities that are encompassed within the process.

In reviewing the normative literature, Quinn (1978) concluded that the formal planning system starts with analysis, includes such activities as forecasting, goal setting, budgeting and communicating and finishes with implementation and control. In other words planning is a broad church covering both an initiation and implementation phase, a conclusion also reached by Dutton & Duncan (1987). From the descriptive stand-point Mintzberg (1983) concurs. 'Any process that separates conception from action - planning from execution, formalization from implementation - impedes the flexibility of the organization to respond creatively to its dynamic environment'. This interpretation is also supported by Kotler (1991). He writes that 'In turbulent environments, business units have to be ready to revise their programs, strategies, ... Some companies carry on continuous strategic planning in that they keep adapting their programs to changing conditions ....'. In these view-points a consensus emerges that planning extends from analysis to monitoring, control and adaption.

Encapsulating these perspectives of planning, the research is guided by the following definition -

Definition of Corporate Planning

> Corporate planning is the (semi) formal organisational process by which strategy is formulated and followed through into the environment. It is divided into initiation and implementation phases. The process begins with analysis and finishes with control and adaption.

Within the corporate planning framework we are now in a position to examine how marketing planning fits into the wider context. Peattie & Notley (1989) were content with a broad scenario - 'The process consists of analysing market opportunities, researching and selecting target markets, developing marketing strategies, planning marketing tactics, and implementing and controlling the marketing effort'. McDonald (1989) is even more succinct, defining marketing planning as - 'The planned application of marketing resources to achieve marketing objectives'. His examination of the planning process identified eight phases, starting with 'corporate objectives' and culminating in 'measurement and review'. The process is seen to be iterative, with plans modified in the light of market experience. It will be noted that this conception of marketing planning matches our broad view of corporate planning. Greenley (1988), in an examination of management perceptions of marketing planning reaches a similar conclusion. Whilst not offering a definition of marketing planning, his review of both the normative and descriptive literature reveals common features in the planning process. The common perception of marketing planning was that it consisted of the following procedures -

(1) Setting marketing objectives,
(2) Undertaking an environmental appraisal,
(3) Developing marketing strategy
and
(4) Marketing tactics,
(5) Plan documentation,
(6) Plan implementation,
(7) Marketing control.

However, this does not mean that planning necessarily follows a 'logical' step by step sequence from the setting of

marketing objectives through to marketing control. Piercy & Giles (1989) have argued that marketing planning is best accomplished in an 'illogical', iterative fashion. By this is meant a process which is driven by operational managers understanding of the environment and knowledge of what *tactical* imperatives exist and constrain implementation. This is reminiscent of calls from both Boxer & Wensley (1986) and Abell (Financial Times, 10/6/88b) to allow middle managers greater discretion in planning - based upon their intimate knowledge of the marketplace and their role in modifying and implementing plans.

These researchers have adopted a catholic view of the nature of marketing planning. But the common view is that it is best undertaken as a multi-stage, iterative process. It is an ongoing activity and during 'realisation' is adjusted in the light of environmental dynamics. This is summarised in the following definition -

Definition of Marketing Planning

> Marketing planning is a (semi) formal, iterative process consisting of two phases - initiation and implementation. In the first phase, decisions are taken, based upon market analysis, for the deployment of marketing resources to achieve marketing objectives. In the second implementation phase, progress in meeting objectives is evaluated and plans modified where appropriate.

Particular features of the definition, relevant to the research, are - the degree of formality, the role of analysis, the two stages of planning and the extent of the iteration and modification to the plans. This latter feature may be surprising,

but it has been alluded to in both corporate and marketing oriented studies. Further, because the research is concerned with operational planning (Greenley, 1986), greater overlapping of the initiation and implementation stages should be more pronounced and the formulation / reformulation of plans better integrated.

3.3.2. Defining the Main Subject of the Research: Launch Planning

The definition above has set out the main parameters of marketing planning. In this section the broader definition is 'honed' to fit the specific features of launch planning.

Section 2.4.1. defined the 'launch phase' in the context of this research. The definition is repeated below as an *aide memoir* for the 'framing' of the launch planning definition.

> Definition of the Launch Phase in NPD
>
> The launch phase encompasses those concluding NPD activities directed towards the market introduction of a new product. It is primarily a marketing driven process insofar as market considerations govern whether production facilities are 'geared-up'. The phase starts with the final marketing evaluation and planning, goes on to the market introduction and concludes with the 'steering' of the product during its early stages in the market place.

Having identified the main features of 'marketing launch', within the broader commercialization stage, a definition of launch planning can be established. This is based upon the marketing planning definition, fine-tuned to meet the particular features of a new product launch.

Definition of New Product Launch Planning

New product launch planning is a (semi) formal iterative process undertaken during the commercialization stage of NPD. It consists of two phases - initiation and implementation. In the first phase, undertaken prior to market introduction, decisions are taken based upon market analysis, for the deployment of marketing resources to meet new product marketing objectives. The outcome of this first phase is a 'plan' of action which may be a written document embodying the intended strategy.

In the second implementation phase, undertaken after market introduction, progress in meeting objectives is evaluated. Plans are modified where appropriate and remedial action taken.

Following from this definition, consideration can now be given to the implications of the planning process.

3.3.3. Defining Corporate and Marketing **Strategy**

The precise meaning of strategy has engendered much debate. What follows are two of the best known definitions. Of note is how much they have in common. Quinn (1980) has written that strategy is -

> ' .... the *pattern* or *plan* that *integrates* an organization's *major* goals, policies, and action sequences into a *cohesive* whole. A well formulated strategy helps to *marshal* and *allocate* an organization's resources into a *unique and viable posture* based on its relative *internal competencies* and *shortcomings*, and contingent moves by *intelligent opponents*.'

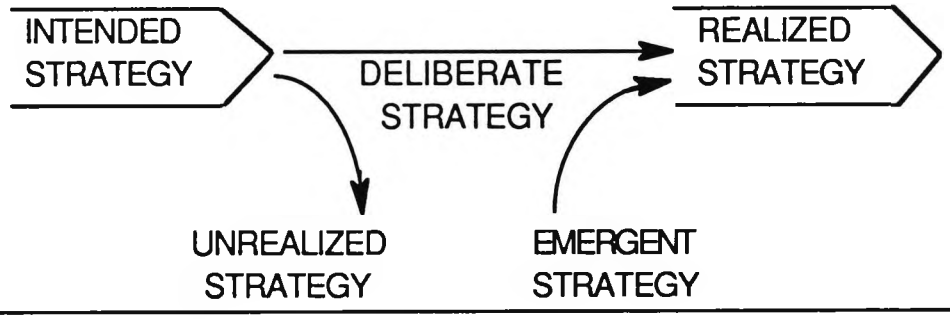
More succinctly, Hofer & Schendel (1978) say -

> 'An organization's strategy is the fundamental pattern of present and planned resource deployments and environmental interactions that indicates how the organization will achieve its objectives.'

Given the similarities between these oft quoted authors we might conclude that the strategy 'problem' is resolved, until, in typically iconoclastic fashion Mintzberg (1989) reminds us that strategy materialises in several guises. Indeed he identifies five strategy types. Initially there is the **intended** (ie planned) strategy. Aspects of this will be **unrealized**. The **deliberate** strategy is what is actually attempted from the plan. Added to this is the **emergent** strategy. This was not (originally) planned, but evolves through experience. The strategy that is finally implemented is the **realized strategy** (a combination of deliberate and emergent strategies). This interrelationship is set out below -

Figure 3.3.3.

STRATEGY TYPES



Source: Mintzberg & Waters (1985).

From an examination of our two strategy definitions it can be seen that they are primarily concerned with the intended strategy

embodied in the plans. However, reference to our definition of corporate planning indicates that the planning process incorporates Mintzberg's conception of the 'realized strategy' insofar as planning is taken to be a process that adapts to environmental experience. Consequently, our definition of corporate strategy, to achieve consistency and symmetry, reflects this dynamic feature -

Definition of Corporate Strategy

> Corporate strategy is the deliberate and emergent (ie realized) pattern of resource deployment and environmental interaction through which an organization seeks to realize its objectives. Many aspects of strategy may be planned well in advance whilst other aspects result from the adaption of an original plan, necessitated by changes in the environment.

Marketing strategy is an integral component of the wider corporate strategy. But what are its special features? The doyen of marketers, Kotler (1991), writes -

> '*Marketing strategy* defines the broad principles by which the business unit expects to achieve its marketing objectives in a target market. It consists of basic decisions on total marketing expenditure, marketing mix, and marketing allocation.'

Other analysts have stressed the competitive aspects of strategy. Weitz & Wensley (1984) define strategy as 'the allocation of resources to achieve a sustainable competitive advantage in selected product-markets'. But as Driver & Foxall (1986) observe, both of these definitions omit the central feature of the marketing concept - the customer! Marketing strategy should 'hold a comparative advantage in fulfilling the wants and needs of

consumers'. Pulling these strands together leads to a customer centred perspective -

Definition of Marketing Strategy

> Marketing strategy is the realized pattern of marketing resource deployment through which an organisation seeks to meet its marketing objectives. These should centre upon satisfying customer requirements to achieve competitive advantage. Many aspects of the marketing strategy may be planned well in advance whilst other aspects result from the adaption of an original plan, necessitated by changes in the environment.

This definition now has to be adapted to meet the specific conditions related to new product launch strategies.

3.3.4. Defining the Secondary Subject of the Research: Marketing Launch Strategy

The strategy for marketing launch will be strongly influenced by the launch plan. But one-way causality is not claimed since the nature of planning entails feedback from, and evaluation of, the current strategy. This was described in Section 3.3. as 'the chicken and egg' syndrome. However as the definition of launch planning made clear, following market introduction there will be inevitable adjustments to the intended strategy. The resultant strategy, termed 'realized', is an aspect of our research. Consequently the definition stated below reflects this feature of strategy implementation, rather than simply what was 'intended'.

Definition of the New Product Realized Marketing Launch Strategy

> A new product 'realized' marketing launch strategy is the pattern of marketing resource deployment through which an organisation seeks to meet its new product marketing objectives. These may have been stated as part of a formal document, the plan, setting out the intended strategy. But, in the light of market introduction experience, intended actions are often amended, resulting in the 'realized' strategy.

Given the practical considerations that guide the research, it is appropriate that the execution of strategy (*post hoc*) be studied. The reasons are two fold. First, what is actually done (the realized strategy) arouses the greatest interest amongst marketing practitioners and of course has profound implications for the intended strategy. Second, research has to be limited in its scope, and not every aspect of the strategy 'equation' could be measured. Consequently, it was important to operate within the research constraints and paramount amongst these was the reliance upon the respondents memories of what was really done during the introduction of the new products.

A final consideration revolves around the level(s) at which the term 'strategy' is appropriate. For the CEO, what happens at the product level could be termed 'tactics'. But to the marketing manager, the planned marshalling and deployment of resources for a single product are very much part of his / her strategy. In this research it is an important issue since we speak of strategy rather than tactics. In the literature, support is derived from Weitz & Wensley (1984) who see strategic decisions as being made at all levels of the organisation. Given the importance of NPD to

high-tech firms and the frequent involvement of the CEO and board, it would seem appropriate to describe the marketing activities associated with the launch of a new product as 'strategic' since these activities help to 'define' the company in the eyes of its numerous constituencies.

3.4. THE CONTRIBUTION OF LAUNCH PLANNING TO NEW PRODUCT COMMERCIAL SUCCESS: THE RESEARCH FOCUS

With the foci of the research defined, we can now move on to evaluate the contribution of launch planning to the performance of new products. This leads to a statement of the primary and secondary research questions.

In the preceding Chapter, Section 2.4. demonstrated the significance of the launch phase to new product success. It was implicit that some degree of planning was involved. This follows from the work of Link (1987) and Cooper & Kleinschmidt (1987a) who refer to the '*management* of launch execution' and the '*proficiency* with which the product is launched'. By implication the launch is planned. However, to emphasise the importance of planning to new product commercial success specific references are now identified.

Both Crawford (1987) and Cooper (1988c) have indicated the importance of launch planning. Crawford writes that '**Planning really is essential**....', whilst Cooper reports that '....new-product performance was indeed dismal, and that many **problems could be traced to a lack of an effective and carefully**

conceived launch plan'. Further, they both suggest that launch planning is not a short term activity. According to Crawford -

> 'The commercialization process begins with a decision to market the new product .... But the new products manager has been gathering ideas on marketing planning and strategy for a long time. The product innovation charter gave some ideas .... and others have been added at each testing stage.'

Similarly, Cooper writes '.... that the marketing-planning process .... closely parallels the new product game plan ....'. This is illustrated below and emphasises the close relationship between new product *business planning* and *marketing (launch) planning.*

Figure 3.4.

The Process of Developing a Marketing Launch Plan

STAGES IN THE NPD PROCESS	LAUNCH PLANNING ACTIVITIES
Evaluation & Screening	
	First Attempts at Setting: Objectives, Market-size, Target market and Product strategy.
Business Analysis	**Defining**: Target market(s) and Product strategy.
Development	**Defining Supporting Elements**: Pricing, Communications and Service.
Testing & Trial	**Revision**: Of Product features. Revise & Finalise Plan.
Launch	**Implementation**: Set Plan in motion. Measure, Control & Modify Plan.

Source: Cooper (1988c), modified in terms of the Booz, Allen & Hamilton (1982) model of the NPD process.

Crawford clarifies this relationship by pointing out that the launch plan is a blue-print for total business activity, but that since the plan is usually developed and implemented by marketers it is best termed a marketing (launch) plan.

There are three features in Cooper's model that are of particular interest. Firstly, it illustrates that launch planning, like other phases in the NPD process should be conducted simultaneously with the other phases ie in parallel. Secondly, that launch planning can begin with the 'Business Analysis' stage. Indeed, it is conceivable the specific 'launch planning' phase may remain unrecognized because it is confused with / represents a continuation of this preliminary stage. Launch planning should be started sooner rather than later and it is not simply an 'add-on, optional extra' at the end of the NPD process. Finally, launch planning consists of two stages - 'initiation and 'implementation', the latter stage comprising 'measurement, control and plan modification' undertaken in the light of practical market experience. This finding is consonant with the definitions of 'marketing planning' and 'new product launch planning' set out earlier in sections 3.3.1. & 3.3.2.

Lending support to these propositions are the voices of two contemporary high-tech marketing practitioners - William Davidow (1986) and Regis McKenna (1985). In Davidow's opinion, a marketing plan for a new product is a 'living document' - adapted in the light of circumstances. Its main role is to convert the 'devices' that emerge at the end of the NPD process into 'superior products' recognised and coveted by potential customers. This is the

'augmented' product of Theodore Levitt.

Davidow writes that -

> 'Success is a function of doing the right things well ....' *but* '.... most of us can't execute effectively without following some type of plan. A good plan can only increase your chances of success. But never, ever trust the *(initial)* plan completely. Results depend upon implementation.'

McKenna takes up this 'story' and emphasises the importance of a carefully conceived and well executed marketing plan that prepares the market infrastructure for the launch and then drives the new product to a defensible market 'position'. According to McKenna 'Companies that plan qualitatively and react swiftly always will be a step ahead of the competition in the battle for strong market positions.'

More recently Nayak (1991) has demonstrated how planning can reduce the total time involved in NPD by as much as 50%. Although evaluating the 'up-front' project and business planning activities (shown in Figure 3.4.), they have a 'knock-on' effect for launch planning. He also found that the longer the planning period the more effectively the NPD strategy was implemented. Similarly, Alan Sugar of Amstrad, after a series of launch failures, was reported (Sunday Times, 23/4/89) as saying that a top priority must be -

> '.... continuing to design a stream of products and bringing them swiftly to market. .... **We must strengthen ourselves** in engineering and design, **especially in our method of checking, testing and bringing products to the market** so that they are rock solid as soon as they go into production. **We've also got to get a team of heavy**

> **hitters to .... improve our product planning**, and take much more firm control of inventories, especially in our overseas subsidiaries.'

Turning to 'launch planning', there are few research studies that formally evaluate the contribution of this very specific activity to the success of a new product. As noted earlier NPD 'process' research has tended to identify the proficiency with which the launch phase is executed rather than the value of launch planning to product success. However, Maidique & Zirger (1984) found that for high-tech electronics firms commercial success was more closely associated with a marketing plan that was formalized on paper sooner and developed with a clearer market strategy. Subsequently, in an extension of their original study Zirger & Maidique (1990) identified product planning as the single most important process variable in securing NPD success -

> 'products are more likely to be successful if they are planned and implemented well. Project planning should include all phases of the development process: research, development, engineering, manufacturing and market introduction.'

In NewProd II Cooper (1988c) also concluded that .... 'A proficient launch, based on a sound marketing plan, and backed by sufficient resources .... *is* .... an integral and natural facet of the *(successful)* new product process'. Whilst he emphasised the early 'up-front' NPD stages, it is important to remember that these include the marketing activities - 'evaluation, screening and business analysis' which 'trickle' down into the subsequent launch phase (Cooper, 1988a).

3.4.1. The Significance of Launch Planning in Different Marketing Contexts

A strong case has been made for the value of launch planning, but it is also pertinent to question how valid planning is *per se* in different launch contexts eg selling to experienced *versus* novice prospects, selling commodities *versus* systems-buy's etc.

The first point to make is that in the diffusion of innovations literature (eg Rogers, 1983) it is invariably concluded that innovative products (as opposed to me-too's) should, during the introduction stage of the PLC, be actively marketed to innovators / opinion leaders. By implication, the launch effort behind a new product is best directed towards more experienced (innovative) customers. In seeking to facilitate early sales / rapid market penetration it is therefore important to carefully target marketing effort, for which a premium will be derived from effective launch planning.

The role of innovative / experienced customers is also enhanced when they act as originators and co-developers of innovations - although superficially this involvement could be a 'double edged sword' to the thrust of our argument. This is because an intimate association with a customer / innovation-initiator could lessen the importance attached to launch planning - since early sales are 'guaranteed'. However, one customer rarely secures success. Indeed, the superior market knowledge breed of a symbiotic relationship between manufacturer and customer should

be the basis of more confident planning. Further, actively building 'relationship-style' marketing is a spur to planning, and the literature dealing with customer sponsored new products points in this direction. Researchers such as Voss (1985), Mantel & Meredith (1986) and Foxall (1989) have all indicated that successful user-initiated innovations were invariably accompanied by considered, proactive behaviour on the part of the supplier, Voss highlighting the importance of a calculated, well researched approach. This view is underscored by von Hippel (1988), the doyen of 'user initiated' research, who emphasises the role of planning in the identification of innovators and the cultivation of an ongoing partnership with these lead users. He also found that in industrial markets, later-adopter needs are not so dissimilar from those of the lead users / early-adopters. Thus, whilst modifications to launch plans are necessary, experience during the introductory stage can serve as a guide for subsequent planning over the PLC.

But, von Hippel's work does not directly consider the relevance of planning to the elected competitive position. For this we can usefully turn to Mathur (1988 & 1991), who provides new insights into our understanding of generic strategy options available for the purposes of market differentation. He also maintains that competitive strategy is about 'outputs', and what could be more output related than the launch of a new product? Especially when launch provides more latitude for positioning than at any other stage in the PLC.

The main features of Mathur's model are set out overleaf -

Figure 3.4.1.

The Role of Market Differentiation in Competitive Strategy

Differentiation possibilities through **Content & Image** — **MERCHANDISE**		SUPPORT: Differentiation possibilities through *Expertise & Personalisation*	
		Undifferentiated	Differentiated
	Differentiated	PRODUCT-BUY eg *Specialist-* **special**	SYSTEMS-BUY eg *Consultant -* **exclusive**
	Undifferentiated	COMMODITY-BUY eg *Trader -* **standard**	SERVICE-BUY eg *Agent -* **augmented**

Source: Mathur (1988 & 1991).

Two main dimensions for competitive positioning are proposed - the merchandise offering and the support provided; both of which can be provided in a differentiated or undifferentiated format. At the extremities, 'complex' systems-sales can be contrasted with 'simple' commodity sales - the latter competing on price alone. The model is far richer than this outline, but without pursuing the nuances, the critical issue to our argument is the question of strategic choice and its implication for planning. Is planning necessary regardless of the type of differentation? Because of the transaction life-cycle the answer is a resounding yes! Market dynamics ensure that as customer wants and perceptions change merchandise (a generic term encompassing both 'products & 'services') will inevitably have to

be transacted in new ways. For example, yesterday's PC system is today's commodity-buy, in recognition of which we find IBM introducing a distinct 'down-market' brand - Ambra. Consequently, firms should frequently ask such questions as - 'How do we compete now?', 'How should we compete in the future?', 'Why?' and 'Is it feasible?' The answers to which can only be resolved through 'more thought and analysis' - predicated upon planning.

This relationship between strategy and planning was utilised in our earlier examination of definitions (section 3.3.4.) and is similarly employed by Kenyon & Mathur (1991), who state that strategies are about deliberate decisions embodied in plans. The type of strategy will vary according to the differentiation choice, but planning is an equally necessary condition for any major competitive activity that can properly be called strategic.

Empirical evidence for this assertion can be 'read-into' planning studies which have sampled a range of industries, within which (by implication) firms follow a variety of differentation strategies. By way of example, Robinson & Pearce's (1988) sample represented sixty manufacturing industries across the technological spectrum. Many of the more successful were planners, yet inevitably they adopted different strategic postures - broadly categorised as 'service oriented', 'innovators', 'channel influencers' and 'branders'. Although these clusters do not correspond to those of Mathur (since the appropriate questions were not asked) they do serve to illustrate that planning can be of value regardless of the particular competitive strategy followed.

The aggregate evidence therefore indicates that launch planning is potentially an important contributor to new product success regardless of customer type or competitive positioning. As such, we argue that our research is significant for a broad variety of industrial products. It was also indicated in the first Chapter - to be expanded in Chapter Five - that data from the electronics industry will be applicable to a range of other industries. Consequently, we can be confident that the research results derived from this analysis will be widely applicable.

3.4.2. Statement of the Primary Research Question

Evaluation of the literature concerning the factors that discriminate between successful and unsuccessful NPD has demonstrated that the manner in which the launch phase is executed is an important determinant of new product success. As an integral part of the launch phase it has also been shown that the approach to launch planning has a significant bearing upon the outcome of the launch and that this conclusion is valid across different industries and product offerings.

Based upon these findings the primary research question can be stated -

The Primary Research Question

> Some new product launches achieve greater early commercial success than others. Are significantly different launch planning procedures employed with the more successful launches?

The literature has also shown that the planning process has two main components. It starts with an 'initiation' phase in which plans are drawn up embodying the main elements of an 'intended' marketing strategy. Once the product is launched the plans continue to be modified. This is the second, 'implementation' phase of planning in which the product is 'steered' towards the objectives specified in the initial plan. During the market introduction phase the 'intended' strategy is adjusted, on the basis of market experience, to become the 'realized' strategy.

Because planning and strategy are inextricably linked as determinants of a new product's market performance we are evaluating these two variables in a single study. The next section explores these issues leading to a statement of the secondary research question.

3.4.3. Statement of the Secondary Research Question

It will be apparent from the previous discussion that there are two secondary research issues. Firstly: 'What is the impact of the realized marketing strategy upon new product commercial success?' Secondly: 'What is the impact of a particular launch planning process combined with a particular realized marketing strategy upon new product commercial success?' However, the first question is subsumed under the second and it is appropriate for the purposes of succinctness to merge the two questions. Consequently, the secondary research question can be stated as -

The Secondary Research Question

Some new product launches achieve greater early commercial success than others. Do particular launch planning procedures allied with particular realized marketing launch strategies achieve superior early commercial success?

In the light of the primary and secondary research questions the working hypotheses can now be set out. These will be underpinned by reference to the relevant supporting literature.

3.5. A STATEMENT OF THE WORKING HYPOTHESES WITH SUPPORTING LITERATURE

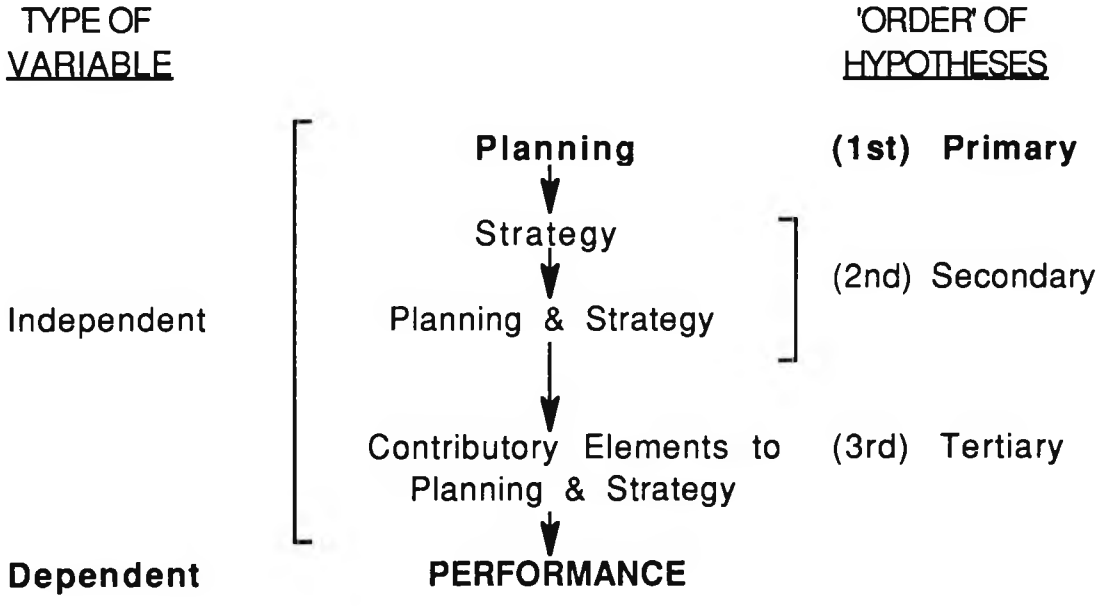
In this Section two 'classes' of working hypothesis are stated, derived from the primary and secondary research questions developed above. The approach adopted is taken from the work of Grinyer et al (1987) who set out a hierarchy of hypotheses termed 'primary' (or first order), 'second order' and tertiary. In the context of the research, the **primary hypothesis** is concerned with the initial or 'first cause' of subsequent actions and the relationship between this first cause and performance. A relationship is hypothesised between launch planning and the early commercial performance of a new product. The second order hypotheses deal with the immediate effect of the 'primary cause' and their relationship with performance. The 'cause' is planning, the 'effect' strategy. Two hypotheses are developed. The first deals with the realized marketing strategy for the new product and its impact upon commercial performance. The second deals with the combined impact of planning and strategy upon performance.

Finally, the tertiary (or supporting) hypotheses deal with the components of 'sophisticated' launch planning and a 'concentrated' marketing strategy and their relationship with new product performance. They are explored in the next Chapter.

The relationships just explained are depicted in the figure below -

Figure 3.5.

The Relationship Between the 'Orders' of Hypotheses and the Dependent Variable



In the next section the literature supporting the primary (working) hypothesis is discussed prior to a statement of this hypothesis.

3.5.1. The Primary (Working) Hypothesis Justified by Supporting Literature

The planning literature is substantial and covers a broad spectrum from eg corporate to product planning. However, rather than calling upon the full range of potential sources, attention will focus upon the literature that has a more direct bearing upon the subject of study. To this end it is largely the planning literature from the 'marketing' school that is invoked. The justification for this approach is two fold. Firstly, greater relevance is served by only utilising the body of research most immediately related to launch planning. As noted earlier, launch planning has not been studied in detail before, but within the terms of the definition it is a 'sub-set' of marketing planning. Allied to this, a more parsimonious evaluation of the subject of study is possible. Secondly, the marketing planning literature is informed by the corporate planning literature and many of the findings in the corporate field parallel those in marketing planning.

As a guide to the analysis pursued here it is useful to set out the three approaches identified by Greenley (1986) for evaluating the effectiveness of marketing planning. These were -

(1) *The Performance / End Results Approach:* This consists of attempting to determine the effect of planning on the performance of the firm through the achievement of objectives or end results.

(2) *The Multidimensional Approach:* This involves assessing the nature of the planning itself by looking to identify a range of attributes, the presence of which is taken to represent effectiveness.

(3) *The Assumed Benefits Approach:* This merely consists of assuming that planning is effective in that its utilization is likely to result in a range of advantages.

Of these three approaches, the first is adopted. It is the most powerful, since it seeks to demonstrate whether planning 'pays' in a way that is most convincing to an organisation ie the extent to which specific planning objectives are achieved. The second and third approaches are less satisfactory. Whilst the 'feel good' factor might 'satisfy' management, the relationship with organisationally valid outputs remains tenuous. However, this research seeks to understand what constitutes good launch planning practice, and the 'multidimensional approach' is also used to identify the ingredients of 'best' planning practice. But, for the purposes of justifying the primary hypothesis it is unnecessary to identify the specific components of good planning practice. This is accomplished in the next Chapter dealing with the tertiary hypotheses.

Our purpose is therefore to identify the major feature of new product launch planning that can make the greatest contribution to early commercial performance. Consequently the studies cited have in general adopted a research design that seeks to establish (amongst other things) the extent to which greater '**sophistication**' in planning distinguishes between the performance of 'more' and 'less' successful companies.

Probably the most comprehensive UK based account of the contribution marketing planning can make to company performance is that reported by Hooley, West & Lynch (1984) and

Hooley & Jobber (1986). Their research was conducted on behalf of the Chartered Institute of Marketing and involved 560 UK companies of various sizes. The companies were divided into two groups consisting of 'top performers' (73 companies consistently falling into the top one-third on six performance measures) and 'others'. On the planning dimension it was found that the 'top performers' employed the most sophisticated approaches to planning and were more proactive and forward looking. The research also found that more sophisticated planning was evenly distributed across the size range of companies. As such there is every reason to believe that the relative performance of mid-sized companies can be distinguished by the sophistication of their planning activities. It will also be recalled from Section 3.2. that Robinson & Pearce (1988) referred to best planning practice as 'sophisticated'. Similarly, Bracker et al (1988) used this term to describe the planning processes of the most successful firms in their sample. These precedents therefore justify the use of **'sophistication'** as a descriptor of the planning process.

Cast in a similar mould is the work of Saunders & Wong (1985). They set out to compare and contrast the operating characteristics of successful and less-successful UK and Japanese companies (in the UK) employing criteria taken from the 'Excellence' literature. When it came to planning, their expectations were that more successful companies would have a greater 'bias for action' rather than a planning orientation (although why these activities should be mutually exclusive is not made clear). However, they found that the successful companies

were consistently more planning oriented. Baker, Black & Hart (1987) reached a similar conclusion in their study of the competitiveness of British industry - '.... successful companies benefit to a larger degree from strategic planning that is built on measurable objectives, has a long term perspective, and concentrates on product and market development.' This is not to say that the relationship is a strong one. As Baker et al point out, detailed, controlled studies of the 'excellence' phenomena often fail to find a wide range of factors that distinguish between successful and less successful companies. However, what is important in the context of this research is that the controlled studies cited above have all found that more successful firms do indeed employ a more sophisticated approach to planning.

Recent corroborative evidence relevant to the research is also forthcoming from Lysonski & Pecotich (1990). They set out to specifically evaluate how marketing planning effected the financial performance of companies. It was found that a more formalized and comprehensive approach to marketing planning was significantly associated with performance. Again 'formalization' and 'comprehensive' can be taken as indicative of planning 'sophistication' although, as will be argued in the next chapter, 'sophistication' embraces more than two dimensions.

On the basis of the cited research and in the light of the primary research question, the primary hypothesis can now be stated. This is done in terms of a 'null' and 'alternate' hypothesis.

The Primary Hypothesis

Null Hypothesis: The degree of sophistication in new product launch planning has no impact upon the early commercial success of a new product.

Alternate Hypothesis: The more sophisticated the launch planning undertaken for a new product the greater the early commercial success of that product.

Finally, it is relevant to question whether the primary hypothesis is appropriate in a high-tech setting. Bracker et al (1988) sampled smaller electronics companies, finding that a more sophisticated process was associated with superior financial performance. Support is also forthcoming from MacInnis & Heslop (1990) who utilised a case study approach to test whether a 'full' / 'sophisticated' marketing planning process would work for high-tech firms. They concluded that with a short planning period and brief plans the '.... traditional marketing planning concepts can be [successfully] applied in a high-technology environment.'

The available evidence therefore supports the contention that more sophisticated planning has a role to play in the successful launch of high-tech products. In the next section an answer is sought to the secondary research question of whether particular marketing strategies, in their turn, have a favourable impact upon the commercial success of a new product.

3.5.2. The Secondary (Working) Hypotheses Justified by Supporting Literature

For reasons of parsimony one secondary research question was developed. However it subsumed the possible relationship between marketing launch strategy and new product commercial success. Since this was to be tested in the research design a secondary hypothesis is first developed regarding the presumed relationship between strategy and success. This is followed by a hypothesis that brings together the possible inter-relationship between planning and strategy and their combined impact upon new product success.

The effect of marketing launch strategy upon new product success was reviewed in the previous Chapter (section 2.3.4.) when the general determinants of new product performance were identified and discussed.

No real guidance is provided in the literature for a precise statement of the main thrust to successful launch strategies. However, it will be recalled (from section 2.3.4.) that PIMS research indicates that firms should concentrate upon several key marketing activities. Firstly, new products should be directed at (sustainable) market niches. The evidence shows that on average market leadership in a small market is more profitable than market leadership in a large market. The ROI in a market under $50m was found to be 28%, whereas in a market over $1bn the ROI was found to be only 11% (Clifford and Cavanagh, 1986). Secondly, relative to the competition, a new product should be supported by

more substantial marketing resources (MacMillan & Day, 1986, and Guiniven, 1986). These factors can be summarised in two expressions - 'focus' and 'effort' - lending themselves to the summary term marketing 'concentration'. It follows that the secondary hypothesis can be formulated as -

(i) Secondary Hypothesis - Relating Strategy to Success

Null Hypothesis: The extent of the marketing concentration of the realized launch strategy for a new product has no impact upon the early commercial success of that product.

Alternate Hypothesis: The greater the marketing concentration of the realized launch strategy for a new product the greater the early commercial success of that product.

Having established the hypothesised relationship between strategy and launch success we can now proceed to the other secondary hypothesis setting out the relationship between the launch planning process, marketing strategy and new product commercial success. The literature concerning this relationship is limited and was reviewed in Section 3.2. It will be recalled that Robinson & Pearce (1988) found that more sophisticated planning and a more consistent and committed marketing strategy taken separately both contributed significantly to company success. However, in combination certain types of planning and strategy had a more powerful effect upon performance, and there are strong grounds for supposition that launch planning and realized marketing launch strategy should have a similar relationship. Indeed, given the more 'intimate' association between these two independent variables it is reasonable to expect that the results could be more clear cut.

Therefore, the relationship is hypothesised as follows -

(ii) Secondary Hypothesis - Relating the Interaction of Planning & Strategy Upon Launch Success

Null hypothesis: A new product's early commercial success is unaffected by the interaction of more sophisticated launch planning and a more concentrated marketing launch strategy.

Alternate Hypothesis: The interaction of more sophisticated launch planning and a more concentrated marketing launch strategy for a new product results in superior early commercial success.

3.6. CONCLUSIONS

Both theory and practice support the view that planning and strategy are inextricably interwoven, and a strong case has been made for studying the impact of these variables, separately and in combination, upon the dependent variable - 'new product early commercial success'. Additionally, whilst experiments can be designed to control for a host of variables, the multi-dimensional nature of the 'realized strategy' poses severe problems. Better to follow the logic of a combined study of process and content, with the resultant benefits of a greater wealth of information.

However, the literature underpinning the contention that planning and strategy should be studied together is corporate specific. This places a premium upon ensuring that the concepts employed for NPD are carefully defined, and attention was given to the compatibility of our definitions with those from the realm of business policy. Features of note are that planning is seen as

extending over two phases - initiation and implementation and that in the implementation phase the intended strategy (developed during 'initiation') is modified in the light of experience, becoming the realized strategy.

Moving from the theoretical to the empirical literature, it was first shown that both launch planning and the realized marketing strategy are significant determinants of new product success. Further, it was demonstrated that planning could be categorised according the degree of 'sophistication' employed in the process, whilst strategy could be described by its degree of 'concentration'. Based upon these findings, primary and secondary research questions were developed. Planning was accorded primacy - as the 'vehicle' for generating the intended strategy, which in turn is a major influence upon the realized strategy. This led inexorably to an hypothesis that more 'sophisticated' launch planning combined with a more 'concentrated' marketing strategy would have the greatest impact upon launch success.

Finally, although much of the analysis has utilised literature drawn from the high-tech field, additional citations indicated that the research results will be valid over a wide range of conditions. For example, planning is important regardless of the merchandise proposition or whether the customer is an innovator or later-adopter.

In the next Chapter the component measures of planning sophistication and marketing concentration are explored for the purposes of developing the tertiary hypotheses.

CHAPTER FOUR

THE MODEL OF LAUNCH PLANNING UTILISED IN THIS RESEARCH

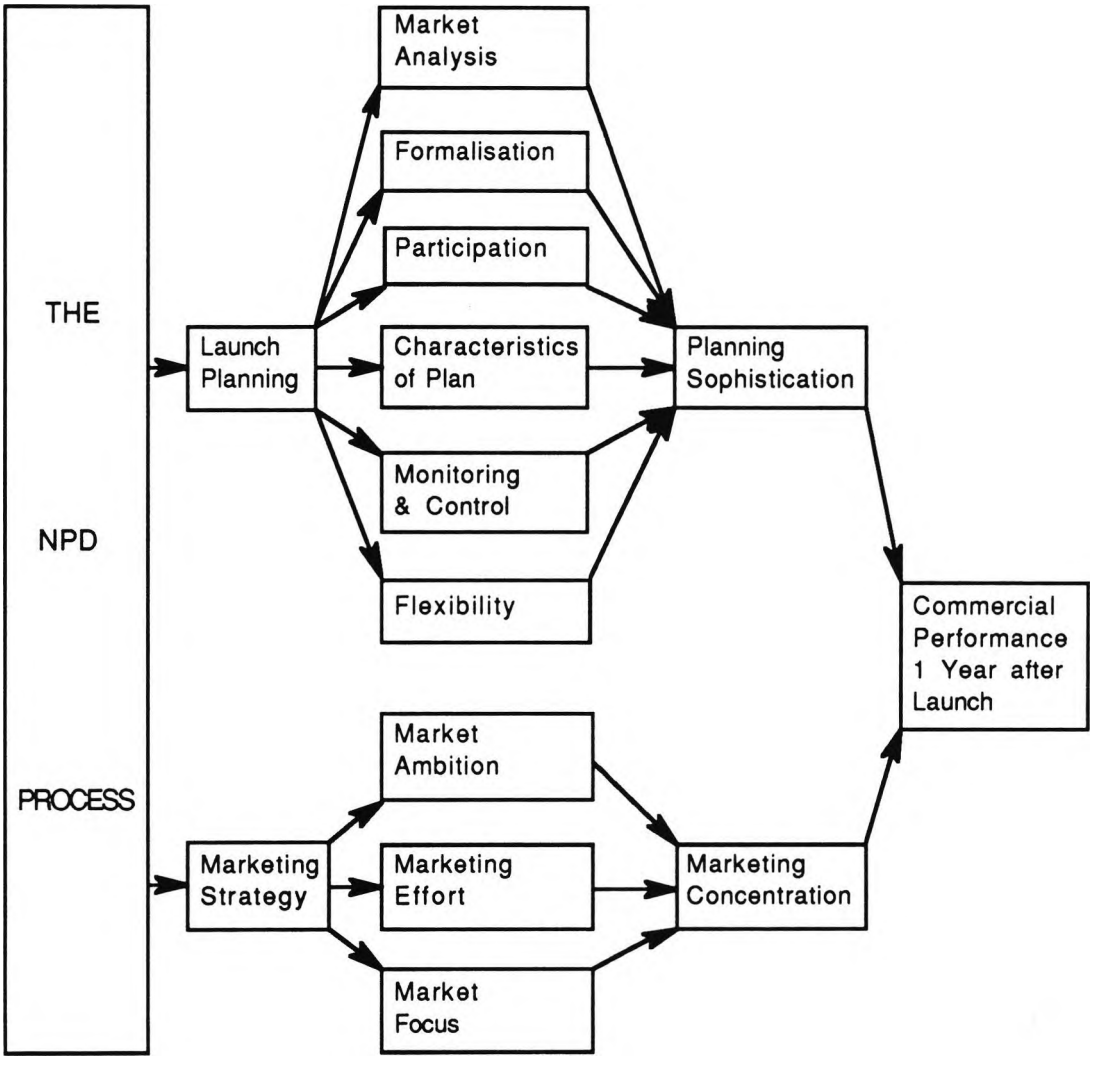
4.1. PURPOSE AND OVERVIEW

In the previous Chapter it was hypothesised that a more 'sophisticated' planning process and a more 'concentrated' marketing strategy are significant, managerially controllable, contributors to new product commercial success. These constituted the primary and secondary working hypotheses respectively. In this Chapter these propositions are 'fleshed-out' and the components of each identified. Tertiary (supporting) hypotheses are stated, supported by a literature review that draws upon the NPD research tradition, and by research taken from the planning, organisational, marketing and strategy fields. An overview of the model is presented in Figure 4.1. opposite. This is an extension of the hypothesised model in Figure 2.5. and demonstrates how launch planning and strategy combine to influence new product early commercial success.

Working from the **primary hypothesis**, the Chapter begins with the substantiation of the main components of launch **planning 'sophistication'**. Six variables are identified - **'market analysis for launch'**, **'formalisation'**, **'participation / integration'**, **'characteristics of the plan'**, **'monitoring & control'** and **'flexibility'**. There follows a more detailed analysis in which the role of each of the contributory elements is discussed in relationship to the specific questions pursued in the questionnaire. These are justified by reference to the relevant literature.

Figure 4.1.

The Contribution of Launch Planning and Marketing Strategy to New Product Commercial Success



A similar procedure is adopted to investigate the **secondary hypothesis,** which concerns the degree of **marketing 'concentration'** employed during the launch. Three main components of the construct are identified. These are **'market ambition'**, **'marketing effort'** and **'market focus'**.

Whilst the exposition follows a sequential path it should be

recognised that the literature review did not progress in such an orderly fashion. Rather, as with the NPD or planning process, the identification of the key components and contributory elements of launch planning and strategy were identified in an iterative manner.

4.2. THE ANALYTICAL FRAMEWORK ADOPTED TO INVESTIGATE THE **PRIMARY** RESEARCH QUESTION

The opening Section of this Chapter identifies the main components of planning 'sophistication'. In the following Section these components provide the foundation upon which the tertiary hypotheses are built.

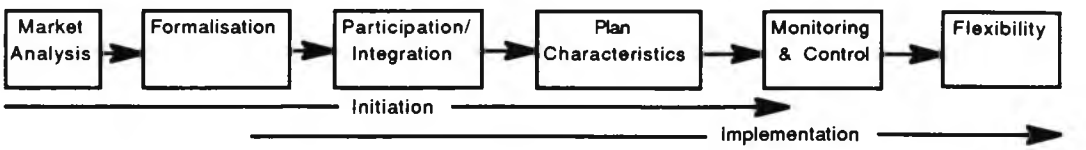
4.2.1. Identifying the Contributory Elements to **Planning 'Sophistication'**

In the review of the literature an eclectic approach is adopted. The aim is to identify features of the planning process, common to a range of studies, which can be merged to create a model that is both intuitively appealing and well founded. A framework is established within which the launch planning process can be studied. To this end, research is cited that involves an analysis of the planning *process*.

As a means of understanding the reasoning that underlies the adopted model it is as well to start at the 'end' with the hypothesised model. It is shown on the facing page -

Figure 4.2.1.

The Model of the Launch Planning Process Utilised in this Research



The process model conforms to the definition of launch planning set out in the previous Chapter, and is derived from the overview presented at the beginning of this Chapter (Figure 4.1.). It is divided into two stages 'initiation' and 'implementation'. The 'initiation' stage begins with 'market analysis' and concludes with a plan of action. A common feature of both 'initiation' and 'implementation' is the degree of 'formalisation', 'participation / integration' and the 'monitoring & control' of the process. The 'implementation' stage of planning is characterised by 'monitoring & control' and the extent to which the plan implementers adopt a 'flexible' approach while putting into effect the intended strategy embodied in the plan. As noted earlier the strategy that is finally implemented is the 'realized' strategy.

To substantiate this view, reference will first be made to the marketing planning literature survey conducted by Greenley (1986). Of greatest interest is research that was concerned with the attributes of effective planning (referred to in the previous Chapter as 'the multidimensional approach' [section 3.5.1.]). Only two pieces of empirical evidence were identified (Dyson & Foster, 1980 and Greenley, 1983) and since Greenley employed the Dyson & Foster scales it is sufficient to set out their framework (overleaf).

Table 4.2.1(a).

Planning Process Attributes
Employed in Two Empirical Studies

ATTRIBUTE NAME	DESCRIPTION	*NAME USED IN THIS RESEARCH*
Data*	Availability of adequate data.	*MARKET ANALYSIS FOR LAUNCH*
Richness of formulation*	Range and 'wealth' of means used to anticipate the future.	
Integration*	Plans as focus for decision making.	*PARTICIPATION / INTEGRATION*
Catalytic action*	Planners stimulate other participants in planning.	
Interest group participation*	The extent of participation.	
Degree of communication*	The degree of communication between planning participants.	
Involvement in decision making*	Range of participants.	
Breadth of evaluation*	Range of criteria employed to evaluate the plan.	
Treatment of uncertainty*	Extent to which the plan employs uncertainty criteria.	*CHARACTERISTICS OF PLAN*
Resources planned	Extent to which plan covers a range of 'necessary' resources.	
Assumptions*	Extent to which assumptions are made explicit.	
Quantification of goals*	Extent to which goals are quantified, but balanced by qualitative considerations.	
Control measures*	Feedback mechanisms, and modifications to the plan.	*MONITORING & CONTROL*
Iteration*	Extent of plan modification during planning process.	*FLEXIBILITY*
Feasibility of implementation*	Anticipation of barriers to implementation and contingency plans.	

* Indicates that attribute (with different title) is included in this research.
Source: Dyson & Foster (1980) and Greenley (1983).

The researchers found that a subset of variables contributed to planning 'effectiveness'. These were, with the descriptors used in this research in "*(Parentheses)* " -

(a) 'Data Used' & 'Richness of Formulation' *(Market Analysis)*

(b) 'Breadth of Evaluation', 'Assumptions' & 'Quantification of Goals' *(Characteristics of Plan)*

(c) 'Control Measures' *(Monitoring & Control)*

The research therefore provides good evidence for the inclusion of a range attributes in the analysis of planning effectiveness. However, these planning descriptors are only loosely related to the criteria used in this study. The reasons are two fold. Firstly, as noted above, the process of defining launch planning attributes was iterative. The general literature serves for guidance and as a framework. But, secondly, the attributes relevant to a specific planning activity should be informed by studies that have addressed the phenomena under consideration. In the process, the analytic components are given an emphasis and pertinence appropriate to the 'type' of planning under investigation.

The significance of this observation is evident by contrasting Figure 4.2.1. and Table 4.2.1(a). Dyson & Foster fail to include in their planning evaluation any reference to the formality of the process. Yet this is a recurrent theme in much of the planning literature and was a major aspect of the planning definitions reviewed in Section 3.3. Further, the balance of the evidence indicates that formal planning systems contribute to better corporate performance (eg the literature review undertaken by

Rhyne, (1986), although as Driver & Foxall (1986) observed 'comprehensive' literature reviews can call upon quite different bodies of research - helping to explain the contradictory conclusions drawn by researchers exploring the same phenomena!

A recent example of the contribution of 'planning formality' comes from Sinha (1990) who examined the relationship between formal planning and strategic decisions. He found that formal decisions were important contributors to the formulation and implementation of more important and riskier decisions eg new product decisions. However, in parallel with the approach adopted here, Sinha concludes that '.... a more fruitful approach would be to study the *characteristics of planning systems* that make them effective along desired decision dimensions'. Such an approach was adopted by Rhyne (1986 & 1987) who, unusually, undertook a multidimensional, longitudinal analysis that incorporated the formality dimension. The research set out to investigate the relationship between strategic planning and financial performance over two time periods (one and ten years) and employed a battery of scales. These included the 'classic' formality dimension as well as scales constructed around the 'analysis & control' (Eliasson, 1976), 'adaptive & integrative' (Lorange, 1980) and 'evolutionary & steady-state' (Leontiades, 1980) aspects of planning.
Re-formulated by Rhyne, these planning features became - 'adaption', 'integration', 'complexity' and 'information sources', the latter a composite of: 'a specific MIS', 'reliance upon the accounting system' and 'uses of supplemental sources of information'. As might be expected, not all of these planning attributes featured as positive contributors to the performance of

more successful companies, but nevertheless, the research provides another important guide to the key elements of the planning process. These elements, in order of significance, were - 'integration', 'adaption' and 'use of information sources'. Interestingly, 'formality' did not contribute significantly to corporate performance over either one or ten years, although in every case high-performing businesses had higher 'formality' scores than low-performing businesses. However, a significant link was revealed by Lysonski & Pecotich (1990) in a study of marketing planning practices. In addition they also found that a more comprehensive planning process and more market research had a positive impact upon revenue and profitability.

Further support for the significance of planning formality comes from the study by Boag & Rinholm (1989). Their research is of particular interest because it deals with the impact of formalized management procedures upon the NPD activities of smaller high-tech firms. Results indicated that a more formalized approach to NPD, including launch planning, led to better performance. At the other end of the size spectrum, Cooper & Kleinschmidt (1991) have also reported that five larger high-tech company divisions were enthusing over the benefits (although not quantified) of recently introduced 'more formal' new product planning / development practices. Interestingly, the greatest value was felt to be better cooperation, communication and co-ordination amongst those involved in the project.

From these studies it is evident that the planning process can be dissected into a series of complementary activities/stages.

Indeed, a multidimensional approach is a feature of the work reviewed. This has the virtue of teasing out the constituent elements that make for better planning practice, although doing so complicates the analytical problems. However, in the process, it is as well not to discard the simplistic unidimensional measure of planning 'formality' that was a feature of early research. The available evidence continues to suggest that the formality attribute has a role to play in successful planning.

The evidence reviewed has been tabulated below to bring together the supporting elements forming the construct 'planning sophistication'. The main categories of this division were apparent in the research already cited, although the 'fine tuning' was influenced by the literature review in the next Section.

Table 4.2.1(b).

The Main Constituents of the Construct 'Planning Sophistication' for New Product Launch - Showing the Supporting Evidence

Main Constituent	Supporting Evidence
Market Analysis for Launch	Dyson & Foster (1980), Greenley (1983), Rhyne (1986 & 1987), Lysonski & Pecotich (1990).
Formalisation	Rhyne (1986 & 1987), Boag & Rinholm (1989), Lysonski & Pecotich (1990), Sinha (1990), Cooper & Kleinschmidt (1991).
Participation/Integration	Dyson & Foster (1980), Lorange (1980), Greenley (1983), Rhyne (1986 & 1987).
Characteristics of Plan	Dyson & Foster (1980), Greenley (1983).
Monitoring & Control	Dyson & Foster (1980), Greenley (1983), Rhyne (1986 & 1987).
Flexibility	Eliasson (1976), Dyson & Foster (1980), Greenley (1983), Rhyne (1986 & 1987).

Using this framework, the analysis moves on to review the NPD literature that provides more specific support for the adopted model of launch planning 'sophistication'.

4.3. STATEMENTS OF THE TERTIARY HYPOTHESES BASED UPON REVIEWS OF THE NPD LITERATURE RELATED TO THE DIVISION OF PLANNING 'SOPHISTICATION' INTO ITS CONSTITUENT ELEMENTS

The component (tertiary) hypotheses of planning 'sophistication' are justified in the descending order set out in Table 4.2.1(b). opposite. In every case the literature review starts with a statement of the hypothesis. It is presented in terms of First - the **null hypothesis (Ho)** and Second - the **alternate hypothesis (Ha)**.

The hypotheses are distinguished by a suffix (a), (b), (c) etc. Their deployment will be apparent in the next section. Subsequently, in Chapter 7, the suffixes are used for identification purposes in the tables dealing with these hypotheses.

As an aid to the reader's understanding, the relevant Section from the Questionnaire (Appendix 6.6.) is reproduced on one of the pages opposite to the justification of each of the hypotheses. The evaluation of the literature follows the order of the questions in the Questionnaire.

QUESTIONS USED TO STUDY 'MARKET ANALYSIS FOR LAUNCH'

a) Was any special market research commissioned to inform the marketing planning ?

|- No market research to aid planning was conducted
|-
|- Some general research was undertaken. It focused on UK customers
|-
|- Specific research was undertaken. It covered UK and overseas customers and competitors

Was any research done in house____or / and by an agency____?

b) Did the marketing planning have any inputs from product market testing ?

|- Testing was inappropriate / not possible
|-
|- Customer trials / proto-type testing was undertaken
|-
|- As above plus trial selling / pre-launch test marketing was undertaken

c) To what extent were the following sources of information utilised in formulating the plan -

Importance	Marketing info. system (MIS)	Accounting system	Personal contact with superiors	Personal contact with subords.	Personal contact with outsiders	Outside public-ations	Inside reports	Outs stud
Not at all	|-	|-	|-	|-	|-	|-	|-	|
	|-	|-	|-	|-	|-	|-	|-	|
	|-	|-	|-	|-	|-	|-	|-	|
	|-	|-	|-	|-	|-	|-	|-	|
Very	|-	|-	|-	|-	|-	|-	|-	|
OR - Not Applicable	___	___	___	___	___	___	___	--

Source: Appendix 6.6., Section 2.1.

4.3.1. (a) Hypothesis Development for 'Market Analysis for Launch'

Ho(a): The extent of the **market analysis** undertaken for the purposes of planning the launch of a new product has no impact upon the early commercial success of that product.

Ha(a): The more extensive the **market analysis** undertaken for the purposes of planning the launch of a new product the greater the early commercial success of that product.

For the purposes of the research, 'market analysis' for launch planning is a broad construct. Support for this proposition comes from Link (1987) and Calantone & di Benedetto (1988) who both found that more comprehensive marketing research and extensive market intelligence were significant determinants of new product launch success. Johne & Snelson (1988) have also found that leading product innovators, in contrast to the less successful, employ more sophisticated market analysis techniques for new product planning. Interestingly, Nonaka (1990), from a Japanese perspective, provides valuable support. His evaluation of the Japanese approach to innovation leads him to the concept of 'information redundancy' - a factor he postulates as *fundamental* to the innovation process. By this he means excess (shared) information gathered and disseminated throughout the organization (not just the project group) leads to greater clarity, reliability and creativity in the decision making process.

More specifically, Cooper, in NewProd I & II, has demonstrated that product market-testing and market research are important contributors to new product success. In **NewProd I**

Cooper (1979a) showed that greater market knowledge was a discriminator between success and failure, whilst in 1983(b) he reported that both 'prototype trials with customers' and 'market-testing' were significant aspects of the successful NPD process. Subsequently, **NewProd II** supported these results, although the balance of findings were given different weights depending upon whether the *frequency* or *proficiency* of the activity was being evaluated. Using both measures, Cooper & Kleinschmidt (1986 & 1987[a&b]) found that 'customer tests', 'test marketing / trial selling', and 'pre-commercialization business analysis' were all associated with more successful product outcomes.

In a re-evaluation of his work, Cooper (1988b), has emphasised the importance of 'pre-development' research activities, including 'preliminary' and 'detailed market study / marketing research'. However, despite this shift of focus, the results demonstrate just as clearly the importance of 'post-development' research & testing, and it would be wrong to discount the earlier findings with their emphasis on the special importance of the later NPD stages. Indeed the 1988 (Cooper & Kleinschmidt) results (reviewed in sections 2.3.2. & 2.4.2.) showed that commercialization activities were as significant in discriminating between success and failure as the pre-development activities. In particular 'customer tests of the product' was significant in terms of cash expenditure, whilst 'pre-commercialization business analysis' was significant in terms of man-days employed.

Pulling together the results of these studies, it is apparent that successful project outcomes are more likely to be secured

where planning is informed by a comprehensive market intelligence system.

4.3.2. (b) Hypothesis Development for 'Formalisation'

Ho(b): The degree of **formality** in the new product launch planning process has no effect upon the early commercial success of a new product.

Ha(b): The more **formal** the new product launch planning process the greater the early commercial success of that product.

'Formality' has traditionally been the yardstick by which planning has been judged. But it has been little used for the evaluation of the NPD process. However, this general oversight is addressed by several studies that indicate a relationship between 'formality' and new product success. Most recently Cooper & Kleinschmidt (1991) have evaluated the impact upon leading (high-tech) industrial firms of implementing a more formal (stage-gate) NPD process. Overall, respondents reported an improvement in both their launches and product success rates. A caveat is that '.... the process should be formal - but not rigid ....' and findings are somewhat contradictory - some firms spoke of '.... careful documentation and reports .... *whilst* .... many managers commented that although the process was formally laid out, paperwork was kept to a minimum'. However, a common concern was that the process should remain *flexible,* and this qualification has an important bearing upon the last of the planning 'sophistication' variables.

QUESTIONS USED TO STUDY 'FORMALISATION'

a) Was a specific launch plng. phase recognized during NPD - initiated by a clear decision to proceed?
|- No separate phase was recognized
|-
|- An informal decision was reached
|-
|- A formally recorded (signing-off) decision was taken

b) Was responsibility for producing any marketing plan clearly and definitely assigned ?
|- It was a shared activity. Responsibility was diffused
|-
|- There was no specific assignment of responsibility: it was understood whose job it was
|-
|- One person had clear and sole responsibility

If responsibility was assigned, to whom was it given _____?
AND to whom were they immediately answerable _____?

c) Were those involved in marketing planning given any specific guidance ?
|- They exercised their own discretion
|-
|- There was an oral guide and written precedents
|-
|- There were clear written guidelines (eg a planning manual)

d) How closely were the procedures kept to in preparing the plan ?
|- Not at all
|-
|- Quite closely
|-
|- Very closely

e) Were explicit min. standards of mkt. performance set by which the product's launch could be judged?
|- Performance criteria were judgemental and variable
|-
|- A degree of flexibility was allowed
|-
|- Clear minimum standards were established

f) How was the marketing planning process conducted ?
|- Mostly on an informal one to one basis
|-
|- Ad hoc committee meetings
|-
|- Plans were developed in formal committees

g) Were any notes kept regarding the progress of the plans ?
|- Informal notes were sometimes kept
|-
|- Formal notes were taken and issued as appropriate
|-
|- Formal minutes of meetings were distributed

h) How were the completed launch plans communicated ?
|- Orally
|-
|- As notes and orally
|-
|- In the form of a standard document

i) Following launch, how was the performance of the product reviewed ?
|- As and when the circumstances demanded
|-
|- On an occasional and informal basis
|-
|- On a regular and systematic basis

Source: Appendix 6.6., Section 2.2.

Dwyer & Mellor (1991b) have also drawn attention to the importance of 'more formal, better documented procedures'. They did not try to establish a statistical relationship between 'formality' and success. Rather, they interpreted the degree of concern expressed by firms in terms of their understanding of 'best practice' in NPD. Not surprisingly, firms felt that they should undertake NPD activities more proficiently. But in particular, Dwyer & Mellor concluded that this could be achieved if -

> '.... more attention had been paid to the systems in place for coordinating and controlling the relevant NPD activities. The suggested improvements reflect the need for detailing standard activity plans to be employed to render procedures more systematic and .... more proficient in their execution.'

In the realm of smaller, high-tech companies, Boag & Rinholm (1989) also utilised a judgemental procedure to study NPD. They found that success is greater when a more formalized approach is utilized during the latter (market introduction) stages of the process. This result parallels that of Johne (1984) who showed that during the implementation stages of NPD (ie 'development & post-development') a more formal approach (in contrast to the less formal NPD 'initiation' stage) was associated with 'success'. Further, if product launch is the 'alpha' of the PLC, product elimination is the 'omega', and Avlonitis (1985) found a weak association between more formalised product elimination decisions and greater 'managerial effectiveness'. With this relationship in mind, it is reasonable to presume that the formality of the terminal stages of the PLC will be mirrored in the initial stages.

Finally, utilising the work of Pugh et al (1968 & 1969), Johne (1982) developed a series of scales specifically designed to measure the degree of formality adopted during the NPD process. These scales, amended where necessary to capture the unique features of launch planning, have been employed in the questionnaire (Appendix 6.6., Section 2.2.)

4.3.3. (c) Hypothesis Development for 'Participation / Integration'

Ho(c): The extent of the **participation** in the new product launch planning process has no effect upon the early commercial success of a new product.

Ha(c): The more extensive the **participation** in the new product launch planning process the greater the early commercial success of that product.

The importance of the participation / integration dimension in NPD is well supported. This is especially true where participation is taken to include 'constituencies' or 'stake-holders' external to the organisation who have an interest / involvement with the NPD outcome. Such a view is adopted here. Support in the high-tech field for close external involvement comes from Voss (1985) and von Hippel (1986) who have demonstrated how customers can act both as sources of innovation and participants in the development process. Additionally, Mantel & Meredith (1986) found that customers can be involved in the marketing and implementation of new products. But not only customers are potential sources of innovation. Von Hippel (1988a) has shown that suppliers can fulfil this role, and with 'just-in-time' it increasingly pays to involve them in the innovation process.

A further incentive for closer relationships with both suppliers and customers comes from the significance of service as a means of gaining competitive advantage (Cravens et al, 1988), and McKenna (1988 & 1991) has suggested that marketing is moving towards a collaborative era in which firms seek to create rather than control markets. For example - 'let's figure out together whether colour matters to your larger goal' in contrast to 'any colour so long as it's black' or 'tell us what colour you want'. In this approach to marketing, customers and suppliers have to be involved in the planning process - as do intermediaries such as distributors. This has been graphically illustrated by McKenna (1985) who describes how the chances of the Apple Macintosh were enhanced through planning and implementing its launch with the cooperation and approval of the industry infrastructure (including industry commentators, third party suppliers, distributors, the business & trade press etc).

Within the organisation, NPD planning activities are more effectively executed where they are guided by a wider corporate plan. Goodall et al (1989) have described a portfolio based planning strategy in which projects are integrated into a coherent NPD program. Giving bite to this argument, Johne & Snelson (1988b & 1990) report how more successful product innovators have corporate strategies for innovation. Further, top management is actively engaged in the NPD process - intimately for really new developments and in a supportive capacity for 'old' product developments. In a more general sense Takeuchi & Nonaka (1986), in their seminal study, emphasised the importance of top management guidance for NPD. Subsequently, Gupta & Wilemon

QUESTIONS USED TO STUDY 'PARTICIPATION / INTEGRATION'

a) How many company people were closely involved in the marketing planning _____?

b) Were any outside 'bodies' involved / consulted when developing the marketing plan ?

|- Internal parties only
|-
|- Customers and distributors
|-
|- Customers, distributors and suppliers etc at home and abroad - They were our partners

c) Was the launch plan guided by a wider corporate marketing plan ?

|- There was no other plan to fit into
|-
|- The SBU had an annual mkting plan. The launch was anticipated in this plan
|-
|- There was also a Group plan for new products. Both plans fitted together

d) Was top management involved in the marketing planning process ?

|- No. The project team were left to get on with it independently
|-
|- Top management took a lively interest
|-
|- The CEO took control

e) Which functional area had the greatest say over the marketing budget ?

|- Finance
|-
|- Finance and marketing/sales
|-
|- Marketing

f) How were the marketing plans developed ?

|- It was top down from senior management
|-
|- They were a collaborative effort between top mgt. and the project team
|-
|- It was bottom up from the project team

g) Which functional areas were closely involved in the marketing planning ?

|- Marketing OR sales
|-
|- Marketing, sales and R&D
|-
|- As above plus manufacturing and other(s) eg finance

h) Which functional areas were involved in developing the communications program and product support literature ?

|- It was the job of marketing OR sales
|-
|- Marketing, sales and R&D
|-
|- As above plus manufacturing and others

i) Once completed, how widely circulated were the launch plans ?

|- They had limited circulation to marketing (and top management)
|-
|- To marketing, sales and manufacturing
|-
|- As above plus R&D and others eg finance

Source: Appendix 6.6., Section 2.3.

(1990) found that 42% of their sample of high-tech company respondents thought that senior management were insufficiently supportive. Weight to this argument has most recently come from the 'excellence' guru Tom Peters (1990 &1991 in 'Get Innovative or Get Dead' ! [Parts I & II]). He emphasises the vital role of top management, but only insofar as their enthusiasm and example permeates the organisation. However, project plans are a collaborative effort in which the direction is 'bottom-up' rather than 'top-down'. Lovelace (1987) found this to be the most successful 'direction' for R&D planning, and in a somewhat wider context, Piercy (1987) showed that a 'bottom-up' marketing budgeting process was implicated in relatively higher levels of corporate profitability. In this process the marketing department had more control over its own budget. Therefore, although the evidence suggests that the attitudes and behaviour of top management are important contributors to new product success, much also depends upon the devolution of responsibility to the NPD team - in terms of setting both the plan agenda and the allocation of marketing resources for the launch.

The cross-functional project team for NPD has now become part of marketing's 'received wisdom'. Faster, more frequent product introductions are often the main rationale advanced - eg by Peters (1990), Gupta & Wilemon (1990), Stalk (1988) and Uttal (1987) etc - although a corollary is getting the product 'right' for the market first time. To this end inter-functional relationships can serve the needs of launch planning and product introduction, with R&D and manufacturing acting in partnership with marketing. Gupta et al (1986a) demonstrated that in high-tech companies the

importance of planning & controlling is amongst the most important of the joint activities undertaken between marketing and R&D. More specifically, these researchers (1985a) showed that planning and market introduction activities are enhanced where marketing and R&D cooperate by sharing test market and customer feedback information - leading to the joint development of service manuals and communications strategies. Support is also forthcoming from Riggs (1983) who found that more successful product documentation results from greater R&D / marketing collaboration. However the NPD literature is limited with regard to the marketing / production interface, although Weinrauch & Anderson (1982) and Ginn & Rubenstein (1986) have indicated the importance of integrating production into the NPD process. Without this collaboration, a real danger exists that production scheduling and inventory build-up will not match market(ing) requirements. Similarly, the NPD process also requires a close relationship between R&D and production. Bergen et al (1988), in a four country study (Japan, UK, USA and West Germany), found that more involvement of production in R&D can lead to 'greater technical success' and 'greater speed through the production department'. Of additional interest to this research is their finding that the involvement of senior management in the NPD process and the acquisition of more 'complete information' are important contributors to project success (refer to section 4.3.1.).

But plans can only 'begin to come good' insofar as they are communicated to all the interested and relevant parties. This feature of planning is seldom made explicit, although often implicit eg Gupta et al (1985b & 1986b). However, Bonoma (1985)

and Davidow (1986) have both emphasised the importance of the wide circulation of plans as an informative and integrative 'device'.

In conclusion, it has been shown that greater participation / integration in the NPD process can be an important contributor to a satisfactory NPD outcome. In particular, the research evidence indicates that the wider the range of participants, both internal and external, the greater the likelihood of success. However, the guiding hand of top management is an important element in the process, although, on balance, planning should be bottom-up. Finally, the plans need to permeate the organisation, circulated to all interested parties - albeit on a 'need to know' basis.

4.3.4. (d) Hypothesis Development for 'Characteristics of the Plan'

Ho(d): The new product launch plan **characteristics** have no impact upon the early commercial success of a new product.

Ha(d): The 'tighter' the **characteristics** of the plans for launching a new product the greater the early commercial success of that product.

This attribute of the planning process has been identified for two main reasons. First, the 'characteristics of the plan' are the embodiment of the decisions reached during the initiation stages of the planning process, and reflect the organisational procedures that have gone into their production. These represent an important indicator of the nature of the process, insofar as 'tighter' objectives suggest greater clarity of purpose - especially when

QUESTIONS USED TO STUDY 'CHARACTERISTICS OF THE PLAN'

a) Were objectives primarily qualitative or quantitative ?

|- The objectives were open rather than specific and numerical
|-
|- They were a mix of qualitative and quantitative
|-
|- Wherever practical they were tight and quantified

b) Were objectives predominantly financial or sales related ?

|- Objectives were predominantly financial eg profit related, break-even etc
|-
|- A mix of financial and sales related objectives
|-
|- Objectives were predominantly sales related eg sales volume, market share etc

c) What kind of market objectives were set for the new product ?

|- To match competitor sales
|-
|- To be the UK market leader
|-
|- To be the world leader

d) How long were the launch plans ?

|- Detailed and substantial (15+ pages)
|-
|- Of moderate length
|-
|- Brief (a few pages)

e) How far forward did the plans stretch ?

|- For the first few months after launch
|-
|- For about a year - including introduction overseas
|-
|- For several years, including product improvements, variants, new applications and follow-ons

Source: Appendix 6.6., Section 2.4.

allied to more extensive 'monitoring & control'. Second, available evidence has suggested that the plan contents / aspirations can be a significant precursor of success. These issues are now explored.

An *a priori* requirement of any 'worthwhile' plan is that it should set realistic and measurable objectives - measurable in terms of both timing and quantity (whether by volume or value). McDonald (1989) makes it clear that (marketing) objectives have to be measurable to be meaningful, whilst Latham & Yukl (1975) showed that more specific objectives can improve performance. The nature of these targets vary, but contemporary evidence, especially that based upon the aspirations of Japanese companies, indicates that new product success depends upon a clear determination to meet share and revenue objectives. This is supported by the findings of Saunders & Wong (1985), who compared and contrasted the marketing behaviour of British and Japanese companies. They found that (aggressive) share objectives were a distinguishing feature of more successful corporations (often Japanese). Hooley & Lynch (1985) also discovered, in an examination of the 'success' characteristics of UK 'high-flying' companies, that relatively higher market share objectives were significantly associated with superior corporate performance.

The importance of pursuing longer term market share objectives is also evident in the PIMS studies (eg Buzzell & Gale, 1987). These have identified the role of ambitious market share goals to new product achievements. The logic is that sales / market share objectives take precedence over financial objectives (in the shorter term) - with financial criteria providing a minimum

threshold. The final outcome is a sustainable market leadership that yields the necessary financial rewards.

Additionally, Cooper & Kleinschmidt (1985) have demonstrated that for industrial companies a higher market share is significantly more likely where overseas markets represent a major target. Ong & Pearson (1982) also concluded that successful, innovative UK smaller / medium sized electronics companies are explicitly more export oriented. These results have been underwritten by Modiano & Ni-Chionna (1986), who identified that for UK mid-sized, high-tech companies, world leadership in niche markets is a key ingredient to corporate success. Similarly, Clifford & Cavanagh (1986) and Davidow (1986) have emphasised the importance of seeking market leadership - conceived on a world scale.

However, regardless of the ambition and complexity of a firm's aspirations, both Bonoma (1985) and Davidow (1986) have counselled a brief planning document. As Davidow writes .... 'Who has time to redo a 200-page plan every three months?' This said, the plan should look to the future, and Moore (1976) has stated that high-tech firms must incorporate into their new product plans outlines of product improvements, variants, follow-on's etc. This is reminiscent of the work of Rothwell & Gardiner (1989) and Wheelwright & Sasser (1989) who have highlighted the importance of 'robust' product designs that can be stretched into product lines and updated 'generations'. By implication extending the PLC - something that should be anticipated and planned prior to the 'introduction' stage, rather than the subject of extemporised

modifications during growth and maturity.

4.3.5. (e) Hypothesis Development for 'Monitoring & Control'

Ho(e): The extent of the **monitoring & control** undertaken during the launch planning process for a new product will have no effect upon the early commercial success of that product.

Ha(e): The greater the **monitoring & control** undertaken during the launch planning process for a new product the greater the early commercial success of that product.

Plans are of little value if they are not subject to monitoring & control mechanisms. Without such procedures the initiation stage can be devoid of purpose and direction, whilst implementation lacks credibility - what gets measured gets done!

Johne & Snelson (1990) have indicated that more frequent and formal inter-departmental meetings are a feature of the post-initiation stages of NPD in more successful corporate innovators. These meetings can also be informed by the use of a range of management science methods frequently identified with 'project evaluation techniques' - seen at their more sophisticated as 'critical path methods' (CPM). Evidence for the use of these techniques is mostly anecdotal, although both Dusenbury (1967) and Dundas & Krentler (1982) have promoted the merits of CPM for new product introductions. More recently Watts & Higgins (1987) investigated the use of 'advanced' management techniques in NPD, finding that 46% of their sample were using CPM methods - 30% computerised. Overall, 74% of firms used at least one formal

QUESTIONS USED TO STUDY 'MONITORING & CONTROL'

a) Were formal inter-departmental meetings held to monitor the progress of the plans ?

	Pre - launch	Post - launch
None	|-	-|
	|-	-|
Quarterly	|-	-|
	|-	-|
Weekly	|-	-|

b) Following launch how often were performance variables checked ?
|- Variables were measured monthly or less often
|-
|- They were measured fortnightly
|-
|- They were measured weekly or more often

c) Following launch how many key performance variables were tracked on a regular basis ?
|- Many variables were monitored eg 10+
|-
|- A moderate number were monitored eg 6 to 9
|-
|- Few variables were monitored eg 5 or less

d) Were checks made on customer satisfaction ?
|- We relied on customers contacting us
|-
|- The product and sales managers called on customers/distributors quite often
|-
|- Frequent calls were made. Top management also called on customers and distributors

e) Were competitor reactions monitored ?
|- Information gathering was discretionary and adhoc
|-
|- Competitor monitoring was an occasional activity
|-
|- We formally and regularly evaluated their actions

f) In undertaking the marketing planning process were any formal control techniques used ?
|- Checklists
|-
|- Barcharts or milestones or gantt charts, Spread sheets
|-
|- PC based PERT / CPM methods, financial packages

g) Was use made of deadlines to control the planning and implementation process ?
|- Rather miss deadlines than force the pace
|-
|- Deadlines were flexible but generally adhered to
|-
|- Deadlines were always tight and rigorously adhered to

h) On what basis were launch expenditure and effort set ?
|- As a % of total marketing expenditure/effort
|- What we could afford/spare
|- As a % of expected product sales
|- Target % of competitor expenditure/effort
|- Objective and Task

i) When did the product's market manager become closely involved with the product development process
|- As the product was launched
|-
|- When the marketing planning started
|-
|- At the very beginning- at the project definition/concept formulation stage

Source: Appendix 6.6., Section 2.5.

technique, with 88% employing computers as a management aid. The effective use of these techniques implies a concern to meet deadlines, a supposition supported by McDonough, III, & Kinnunen (1984). They found that more successful firms were better at meeting deadlines (ie keeping to previously determined schedules), achieved using a mix of written reports and formal and informal meetings. However, the use of more formal methods is limited because of the speed at which information becomes redundant in high-tech environments.

Pinto & Slevin (1987), in an evaluation of successful project management, revealed that putting pressure upon deadlines is an important contributor to project success - a finding that other research has confirmed in a dramatic fashion. Reinersten (1983), a former McKinsey consultant, illustrated how a new product on-time, but 50% over development costs, might undershoot profit targets by 4%. However, the 'disaster' scenario was being six months late, but on budget. Profit targets were undershot by 33%. Similarly, Uttal (1987) reported that in electronics, '.... coming to market 9 to 12 months late can cost a new product half its potential revenues'. Most graphically, A. D. Little (1991), have demonstrated how being one year behind the launch of the General Motors 'Cavalier', cost Ford $1 billion in lost profits over the next five years for their delayed 'Sierra' model. Clearly, meeting ever shortening deadlines has become a key factor in competitive success (Stalk, 1988).

However, meeting launch deadlines is no guarantee of success. Also required is an unremitting attention to

post-introduction detail, although this does not imply 'measuring everything that moves'. Equally necessary is a clear focus upon those few variables that are vital to superior performance (Bonoma, 1985; Clifford & Cavanagh, 1986; Peters, 1988). This may be product quality, distributor support etc but, symptomatic of much else is an overriding concern for customer satisfaction, evaluated against competitors and their reactions to the new product introduction. Such considerations have received little explicit attention in the NPD literature although PIMS studies, based upon the fundamental notion that a firm's offering is judged relative to the competition, have found a strong association between relative product 'satisfaction' levels and SBU success (see for example the general summary of the PIMS 'experience' by Buzzell & Gale, 1987). These studies have also implied a rational approach to the control of marketing expenditures. Kotler (1991) has described a range of approaches to advertising budgeting, with 'objective & task' the preferred choice. Tested by Piercy (1987), the 'objective & task' method was found to be the most effective contributor to corporate performance and, significantly, this approach to NPD budgeting was also found by Lovelace (1987) to be an important determinant of new product outcomes.

Finally, the monitoring & control of a project requires continuity over the launch planning 'initiation and implementation' stages. Takeuchi & Nonaka (1986) have commented that some of the project team should see the project through into the market-place. This is a reflection upon the importance of devolving responsibility to the project leader for the successful launch of the new product. Knight (1987) argues that the 'leader' should also

be the project champion lest the originator of the concept is demotivated - thereby dramatically reducing success rates. Recent support is provided by Zirger & Maidique (1990), who showed that electronics projects are more successful where '.... a clearly identified individual was an activist in promoting the product's development throughout the product development and introduction cycle.' Additional evidence for the value of management continuity is also found in the corporate venturing literature (dealing with 'intrapreneuring'), and both Roberts (1980) and Burgelman (1984) observed that more successful ventures had project teams that saw the new product / business into the marketplace. The teams were also well rewarded for the success of the venture. This general approach to venture management is exemplified by the 3M Corporation - one of America's most consistently innovative and successful businesses.

4.3.6. (f) Hypothesis Development for 'Flexibility'

Ho(f): The extent of the **flexibility** adopted when implementing the launch plans for a new product will have no effect upon the early commercial success of that product.

Ha(f): The greater the **flexibility** adopted when implementing the launch plans for a new product the greater the early commercial success of that product.

'Flexibility' in planning is not a subject that has received much specific attention. Consequently it is necessary to turn to the general literature. This was explored in Section 3.3., when a

QUESTIONS USED TO STUDY 'FLEXIBILITY'

a) How closely did you stick to any launch plan during the first year ?

|- We followed it very closely
|-
|- We kept to the principles, some tactical changes were made
|-
|- Significant changes were made to our marketing strategy

Where changes were made did you follow previously formulated contingency plans?

b) If necessary, how quickly could you react to changed market conditions ?

|- We took our time to address changed conditions. Weeks rather than days
|-
|- We got going fairly quickly
|-
|- We moved very fast. Changes in tactics were working in days

c) How much power was delegated to the product market manager to make unilateral changes to the launch plan ?

|- Very little. Any changes had to be cleared with the marketing director
|-
|- Small changes were acceptable - financial and directional
|-
|- A great deal. Major changes were made, and justified later

Source: Appendix 6.6., Section 2.6.

definition of NPD marketing launch planning was developed. It will be recalled that authorities such as Quinn (1978), Mintzberg (1983) and Kotler (1991) all suggested the importance of planning implementation as an integral stage in the planning process. Further, they observed that effective planning implementation is characterised by a degree of 'flexibility', in which the original plan is modified in the light of experience. In the dynamic world of high-tech launches there is no alternative to this adaptation in the face of rapid market change. However, *a priori*, this should be done within the framework of a well reasoned but flexible plan.

Davidow (1986) has said that '.... most plans are obsolete within ninety days. .... Regular review is thus a most valuable part of the planning process.' Experimental support for this observation comes from three main sources. At the SBU level, McKee et al (1989) found that firms should be more adaptable with their NPD strategies, especially true in the high-tech domain where the general condition is market turbulence. This places a premium upon adaptability, for which there is evidence that in rapidly changing markets new products should be 'steered' towards their objectives. In this situation Burton, Forsyth & Melick (1986) describe how high-tech products may be guided towards their specified goals. As a concept 'steering' stands in contrast to control - yet in the *milieu* of the high-tech environment guidance and control are complementary, rather than contradictory, partners. 'Steering' to summarise Burton et al (1986) is where the plan evolves through proactive management actions to achieve sustained viability. The orientation is strategic - informed by an external focus. **The aim**

is to achieve objectives, not to stick slavishly to a pre-ordained path. Similarly, van der Meer (1988) shows that successful international firms (prospectors) in the semi-conductor industry are more (frequently) flexible with their new product plans. In consequence the plan becomes a 'living document' - dynamic and malleable.

4.4. THE ANALYTICAL FRAMEWORK ADOPTED TO INVESTIGATE THE **SECONDARY** RESEARCH QUESTION

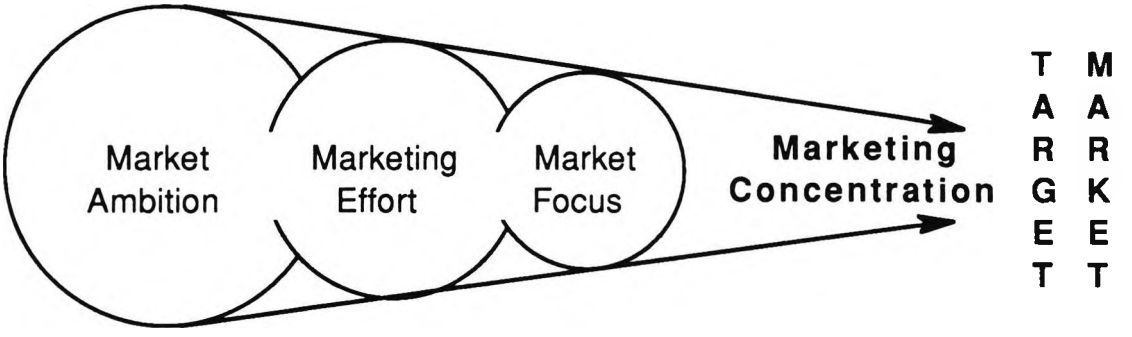
It will be recalled that in the previous Chapter the secondary hypothesis employed the term 'concentrated' to summarise the main characteristic of more successful marketing strategies. In this Section the main features of strategy 'concentration' are expanded to establish the three main components of the marketing 'concentration' variable.

4.4.1. Identifying the Contributory Elements to **Marketing 'Concentration'**

This section justifies the supporting elements of marketing 'concentration'. Primary evidence is drawn from PIMS research, with additional material based upon the NPD literature. Again, we begin with an overview of the hypothesised model, illustrated on the facing page.

Figure 4.4.1.

The Model of Marketing
Concentration Utilised in this Research



When the idea of a 'concentrated' marketing strategy was introduced, it was discussed in terms of 'effort' and 'focus'. By this it is meant that a firm achieves 'concentration' when its marketing effort for a new product is relatively greater than that undertaken by the most significant competitors. Additionally, the effort is focused upon a group of carefully targetted potential customers, probably within a market niche. The concept is now refined by introducing the idea of the degree of market ambition entertained by the 'launching' company. This refers to the extent to which the company aspires to market leadership and whether this is conceived on a world scale or more parochially at the national level.

The justification for this model of marketing strategy for successful new product launches follows the order in which the individual components were set out above in Figure 4.4.1. - ie 'Ambition', 'Effort' and 'Focus'.

However, before beginning the analysis it should be noted that unlike the construct planning 'sophistication', there was no extant model to be adapted for the purposes of the research. Rather, 'concentration' has been constructed from a range of supporting evidence.

Successful young companies and products have more ambitious objectives set for them by their managers. Hobson & Morrison (1983) found that firms setting larger scale entry objectives have achieved significantly higher market share levels and consequently higher ROI. As Hobson & Morrison write -

> 'The differences between winning and losing .... begin early; indeed, before the first sale is made. Differences are noted with the pre-entry objectives that had been identified by the different business managers. .... Those ventures that were launched with high market share objectives for the first two years .... were, not surprisingly, far more likely to achieve high share levels than were those ventures launched with more modest share objectives.'

In a re-evaluation of Biggadike's (1979) work, Weiss (1981) also concluded that successful start-up companies, 'wrapped' around the launch of a new product, achieved greater success when setting (relatively) more ambitious sales and market share targets. In terms of anecdotal evidence, it has now entered into conventional wisdom that Japanese companies pursue ambitious (global) market share goals at the expense of short term profit objectives and researchers such as Saunders & Wong (1985) have indicated the importance of ambitious 'share' objectives as a necessary condition for longer term market success. This view has been endorsed by the UKs Chartered Institute of Management

Accounting (Bromwich & Bhmani, 1989). They recommend that UK companies should take a leaf out of the Japanese book and pay attention to non-financial criteria. In Japan -

> '.... factors such as **desired market share**, cycle time, reject rates and **innovation** are given more weight in managerial decision-making than calculative exercises about financial viability.'

These findings have recently been confirmed by Kotabe et al (1991) who explored the 'veracity' of the PIMS strategy principles to Japanese and US executives. They discovered that, in general, managers in both countries supported the relationships between the strategy variables. But, Japanese managers placed a greater premium upon market share as a major determinant of profitability.

Setting ambitious targets would therefore appear to be a prerequisite for commercial success. However, to meet these targets demands 'adequate' marketing resources. As Hobson & Morrison (1983) report - winners ....

> 'spend heavily on marketing during the first two years of business life. .... ventures that achieved a high level of market share in year four, had spent about one and one half times as much on early marketing as had other ventures.'

Other PIMS based studies dealing with product launches have reached similar conclusions. Guiniven (1986), MacMillan & Day (1986) and Lambkin (1987) all found that marketing 'investments' - the outlays for aggressive spending on the 'mix' elements - can be repaid by additional revenue if rapid market share gains are achieved. Similarly, in the specifically UK, smaller company,

high-tech arena, both Slatter (1985) and Connell (1985) identified the importance of 'aggresive' marketing for new products. Further, as Guiniven notes, the typical new product ....

> 'achieves 60% of the market share it will ever hold by the end of its second year of commercial sales.' *But* .... 'Aggression must be measured relative to market size, so the cost of successful entry is a direct function of the size of market being entered.'

Davidow (1986) provides a startling rule of thumb for the cost of entering a high-tech market against an established leader.

He estimates the cost as -

0.7 x (leader's share of market) x (the value of the market).

No wonder it is so difficult to penetrate a market when there is an entrenched leader! Davidow also claims that in more and more technology markets the price of a product is dominated by the cost of marketing, with the cost of manufacturing the product often less than a quarter of the recommended selling price. As the Financial Times puts it when evaluating the difficulties encountered by the computing industry .... 'In short, marketing is gaining the upper hand over technology as the driving force of growth ....' (Financial Times, 5/7/91c).

These results are supported in the 'standard' NPD literature. Cooper (1979a & b) and Cooper & Kleinschmidt (1986) showed in both NewProd I and NewProd II that greater marketing effort during launch is associated with more successful new products. Abeele & Christiaens (1986) also found that smaller high-tech firms have higher levels of satisfaction with their NPD programs

when pursuing more offensive marketing strategies. Similarly, Maidique & Zirger (1984) found that successful high-tech, electronics products are 'more actively marketed and sold.' Although, as Yoon & Lilien (1985) discovered, it is not enough to spend more; market share critically depends upon the efficiency of marketing operations during new product launch. Bonoma (1985) draws these strands together, reporting that successful new products depend upon both resource generosity and effective marketing implementation.

Whilst the concept of marketing 'efficiency' is difficult to apply, a natural application is where overall effort is focused upon carefully identified prospects - the 'rifle' rather than the 'shotgun' approach. This does not run counter to the general 'rule' that firms should seek market leadership whenever possible. But the pursuit of market share should be tempered by a carefully targetted plan. Otherwise, as Aaker & Day (1986) have argued, fighting for share in a high growth market will not yield the anticipated profits. Indeed, they suggest that more attention should be paid to improving such things as quality and customer satisfaction.

Prescott et al (1986) have also found that in global, emerging markets (a condition of many high-tech markets) the relationship between share and profitability was weak. But, as reported by The Strategic Planning Institute (eg Roberts, 1986) the great difficulty has always been to define the 'market you are in'. Perhaps this is accomplished more effectively when operating in a niche market. Whatever the reason, as noted in section 3.5.2., Clifford & Cavanagh (1986) discovered that market leaders in niche markets are on

average much more profitable than leaders in large markets. Indeed it is now the conventional wisdom that (smaller) high-tech companies should seek to dominate niche markets, and many researchers in both the UK and the USA have found this to be the route to longer term, profitable growth (eg Slatter, 1985; Clifford & Cavanagh, 1986; Davidow, 1986). Davidow writes that for high-tech products - '.... marketing must invent complete products and drive them to commanding positions in defensible market segments'. But national markets are often too small to sustain growth, and export sales are an important ingredient of commercial success - with, from a US perspective, Davidow stating that high-tech products must 'be international or fail'. For high-tech companies in smaller countries exporting is even more important and researchers from Australia (Link, 1987), Canada (Cooper & Kleinschmidt, 1985 & 1987b), France (Calori & Noel, 1986) and the UK (Ong & Pearson, 1982; Slatter, 1985; Modiano & NiChionna, 1986; Baker et al., 1987) have all emphasised the importance of overseas sales. Indeed, Modiano & NiChionna found that for successful mid-sized companies exports were an essential feature of success, with over 50% of sales made abroad by most firms. Canadian electronics firms have also been found (Cooper & Kleinschmidt, 1985) to enjoy a superior export performance (exports as a percentage of total sales > 50%) when they adopted a 'world' orientation and a willingness to adapt products and segmentation policies to local conditions.

The implications for product launch are clear. Companies must focus their marketing activities upon key customers in defensible and sustainable niches - both at home and abroad.

The foregoing analysis has significantly expanded upon, and justified, the concept of marketing 'concentration'. In doing so the notion of 'ambition' has been added to those of 'effort' and 'focus' originally set out (section 3.5.2.). These components and the main cited research evidence are summarised in Table 4.4.1. below -

Table 4.4.1.

The Main Constituents of the Construct 'Marketing Concentration' for New Product Launch - Showing the Supporting Evidence

Main Constituents	Supporting Evidence
Ambition	Weiss (1981), Hobson & Morrison (1983), Kotabe et al (1991).
Effort	Cooper (1979), Hobson & Morrison (1983), Maidique & Zirger (1984), Bonoma (1985), Connell (1985), Slatter (1985), Abeele & Christiaens (1986), Cooper & Kleinschmidt (1986), Davidow (1986), MacMillan & Day (1986), Lambkin (1987).
Focus	Clifford & Cavanagh (1985), Slatter (1985), Davidow (1986) **plus*** Ong & Pearson (1982), Cooper & Kleinschmidt (1985 & '87b), Slatter (1985), Calori & Noel (1986), Modiano & Ni-Chionna, (1986) Baker, Black & Hart (1987), Link (1987).

* = Research that has relevance for both the 'focus' dimension (especially 'exporting') and the degree of '**Ambition**'

Within this framework an evaluation is now undertaken of the NPD literature providing specific support for the constituent elements of marketing concentration.

4.5. STATEMENTS OF THE TERTIARY HYPOTHESES BASED UPON REVIEWS OF THE NPD LITERATURE RELATED TO THE DIVISION OF MARKETING 'CONCENTRATION' INTO ITS CONSTITUENT ELEMENTS

The component parts of marketing strategy 'concentration' are dealt with in the order (top to bottom) set out in Table 4.4.1. Once again the review of each element starts with a statement of the tertiary hypothesis. They are all presented in terms of the null (Ho) and alternate hypothesis (Ha), with each component of strategy identified, in order, by one of the suffixes (g), (h) and (i).

4.5.1. (g) Hypothesis Development for 'Market Ambition'

Ho(g): The extent of the **market ambition** pursued for a new product has no impact upon the early commercial success of that product.

Ha(g): The more extensive the **market ambition** pursued for a new product the greater the early commercial success of that product.

In the previous Section it was shown that in a general sense, more successful product launches are associated with higher degrees of market ambition for the new product. However, these ambitious targets, to be realized, must be adequately and consistently supported.

The following paragraphs identify how 'ambition' is manifested through the key elements of this support.

'Ambition', from a marketing perspective, is most clearly stated through the size of the marketing budget - when judged relative to the competition. PIMS studies (eg those summarised by Buzzell & Gale, 1987) have identified this as a major discriminator between 'more' and 'less' successful SBUs. Similarly, research dealing with new product launches has reached the same conclusion. Hobson & Morrison (1983), MacMillan & Day (1986) and Lambkin (1987) have all found that relatively heavier marketing expenditure on launch is a significant contributor to commercial success. However, 'a bigger splash', by itself, is inadequate. New product success demands a commitment to the product throughout the introductory phase - and beyond. It is implicit in the PIMS results that such consistency is required and Guiniven (1986) criticises the 'big-splash entrant' who subsequently cuts back expenditure. He writes ....

> 'Many new companies launch new ventures with what they view as extravagant marketing budgets. Having thus trumpeted their arrival in the market they cut back .... . The effect is rather like taxiing down the runway in a 747 at full power, then throttling back just as the wheels lift off. Most likely the 'extravagant' budget was reasonable. **The key is to maintain that level of expenditure until market penetration brings marketing / sales to reasonable levels**. Don't cut back the numerator; grow the denominator.'

But, it is no good encouraging sales unless the facilities are there, and it is vital to ensure that sufficient manufacturing capacity is available to meet market ambitions. To this end, firms must have the courage to install enough manufacturing capacity to meet their market objectives, and Hobson & Morrison (1983), MacMillan & Day (1986) Lambkin (1987) have emphasised the

QUESTIONS USED TO STUDY 'MARKET AMBITION'

In many of the following questions you are asked to estimate your firms RELATIVE level of expenditure. The estimate should be made relative to the average levels of the 3 largest competitors in your served market.

a) How would you rate the size of the MARKETING LAUNCH BUDGET RELATIVE to leading competitors in the market ?
'About the same' is defined as within + or - 1 % point; 'Much More or Less' means more than 5 % points more or less.

|- Much less
|-
|- About the same
|-
|- Much more

b) RELATIVE to leading competitors, how would you rate your PERSISTENCE IN EXPENDITURE to support the new product once the initial launch was over (ie over the first year) ?

|- Much less
|-
|- About the same
|-
|- Much greater

c) By the end of the first year how much of the TOTAL SERVED MARKET DEMAND could you have met ?

|- All of it (and more)
|-
|- About 60 %
|-
|- Less than 20 %

d) Following launch, how would you rate your ongoing expenditure on R&D RELATIVE to competitors?

|- Much less
|-
|- About the same
|-
|- Much more

e) RELATIVE to leading competitors, what was the BREADTH of PRODUCT LINE that you created or that the new product joined ?

|- Narrower
|-
|- The same
|-
|- Broader

Source: Appendix 6.6., Section 3.1.

importance of adequate capacity to product success. As reported by Hobson & Morrison, winning new products started (ie in the first two years) with the capacity to meet twice the market demand! In contrast loosers only started with the capacity to meet a mere six percent of early demand. However, during this critical early period of the PLC it is also important that the product be modified and updated to both pre-empt competitors and to take account of technological advances. Hobson & Morrison report that winning new products have nearly twice the R&D expenditure than loosers in the first two years following launch. But by the fourth year spending as a proportion of sales is on a par, although because the winners have greater sales the absolute R&D expenditure remains higher. The 'moral of the tale' is that heavy spending on R&D early in the PLC is one of the keys to achieving higher market share. Additionally, in a longitudinal study Wagner (1984) demonstrated, using the PIMS data, that managers who 'persistently spend heavily on R&D as well as marketing have a better than average chance of improving ROI.'

An outcome of the higher spending on R&D may well be additions to the product line. This is indicative of ambition insofar as sale potential is enhanced. Again PIMS evidence shows that developing a broader product line can lead to greater success. Work by Morrison & Tavel (1982) and Lambkin (1987) has shown the significance of a broader product line in achieving higher market share - especially pronounced for pioneering companies. Yoon & Lilien (1985) also found that for 'reformulated new products' expanding the product 'group' is a positive contributor to first year market share.

It can therefore be said that Biggadike's (1979) conclusion that new products require substantial investment has been borne out by subsequent research. New products are more likely to achieve commercial success where ambitious targets are backed by relatively greater resources than competitive offerings. This clearly has important implications for the direction and degree of marketing effort, and in the next section these dimensions are investigated.

4.5.2. (h) Hypothesis Development for 'Marketing Effort'

Ho(h): The degree of **marketing effort** made for the launch of a new product has no impact upon the early commercial success of that product.

Ha(h): The higher the **marketing effort** made for the launch of a new product the greater the early commercial success of that product.

In the preceding section it was shown that successful products are more generously resourced. The purpose of this section is to demonstrate how these resources can be more effectively distributed over the 'mix' elements. As Davidow (1986) writes, the primary aim of marketing is to convert NPD 'devices' into 'products'. By this is meant the differentation of the new product from competitor offerings through superior marketing - a holistic, augmentation approach.

Analysis of the means by which new 'devices' are converted into products will follow a path that starts with -
(i) the disbursement of expenditure over the mix elements,

(ii) considers the role of early market communications,
(iii) evaluates the performance element in product service and concludes with (iv) an evaluation of customer 'value'.

PIMS studies, summarised by Buzzell & Gale (1987) have demonstrated that greater relative expenditure on the mix elements of 'sales force', 'advertising', 'promotion', 'intermediary support' and 'customer service' can all be significant contributors to product success. More specifically, MacMillan & Day (1986) found that greater relative spending for new products in the first year after launch on the sales force, sales promotion and advertising resulted in the 'double benefit' of both higher market share and higher ROI after four years. Support for higher levels of expenditure / effort during the launch phase is also found in the 'standard' NPD literature and research findings are summarised below -

Table 4.5.2.

Evidence From the NPD Literature Supporting Relatively Higher Levels of Expenditure/Effort Upon the Marketing Mix Elements During the Launch Phase

Mix Element	Supporting Evidence
Sales Force	Cooper (1979 & 1982), Maidique & Zirger (1984), Cooper & Kleinschmidt (1986), Link (1987).
Advertising	Cooper (1979 & 1982), Maidique & Zirger (1984), Saunders & Wong (1985), Cooper & Kleinschmidt (1986 & 1987b), Dwyer & Mellor (1991b).
Sales Promotion	Cooper & Kleinschmidt (1986 & 1987b), Link (1987), Dwyer & Mellor (1991b).
Dealer Support	Saunders & Wong (1985), Davidow (1986), Link (1987).
Customer Service/Support	Lele (1983), Saunders & Wong (1985), Thompson et al (1985).

QUESTIONS USED TO STUDY 'MARKETING EFFORT'

a) RELATIVE to leading competitors in the market how do you judge LAUNCH EXPENDITURE on each of the following marketing variables ? In each case 'about the same' is defined as within + or - 1 % point; 'Much more or less' means more than 5 % points more or less.

	Sales force	Advertising media	Sales promotion	Dealer Support	Customer service/support
Much less	|-	|-	|-	|-	|-
	|-	|-	|-	|-	|-
About same	|-	|-	|-	|-	|-
	|-	|-	|-	|-	|-
Much more	|-	|-	|-	|-	|-

b) Prior to launch was any EARLY promotion / publicity sought ?

\|- Trade shows were used
\|-
\|- Shows, conferences and trade press publicity
\|-
\|- As above plus technical seminars, industry experts / commentators, early/influential customers, consultants etc

c) As seen by your customers, RELATIVE to leading competitors, how do you estimate they rated your PERFORMANCE on the following factors ?

	Delivery time	Sales service	Technical support	Repairs & maintenance	Complaint handling	Ordering/ billing
Much worse	|-	|-	|-	|-	|-	|-
	|-	|-	|-	|-	|-	|-
About same	|-	|-	|-	|-	|-	|-
	|-	|-	|-	|-	|-	|-
Much better	|-	|-	|-	|-	|-	|-

	Warranty	Technical literature	Product image/ Firm reputation
Much worse	|-	|-	|-
	|-	|-	|-
About same	|-	|-	|-
	|-	|-	|-
Much better	|-	|-	|-

d) As seen by your customers, RELATIVE to leading competitors in the market, how do you estimate they viewed the QUALITY of your product ? In assessing quality, the customers perceptions of both the intrinsic characteristics of the product (eg performance, features, reliability, durability, serviceability etc) and any associated services (eg delivery-time, warranties, application assistance etc) should be taken into account where these are important in the purchase decision.

\|- Inferior
\|-
\|- Equivalent
\|-
\|- Superior

e) RELATIVE to leading competitors, estimate the AVERAGE SELLING PRICE of the product in the first year, where the weighted average of the 3 largest competitors = 100 %
(eg. if this product's price averaged 5 % below those of leading competitors, enter 95 %)

Relative price in 1st year _____ %

Source: Appendix 6.6., Section 3.2.

Consideration should also be given to the distribution of effort between these 'mix' elements. Conventional wisdom has it that during the early stages of the PLC effort should be devoted to increasing awareness of the new product - although whether through sales force effort or advertising is left unclear. But, Hobson & Morrison (1983), over a wide sample of companies, have found that products achieving higher market share spent, on average, more on advertising and promotion than upon the sales force. However, this expenditure needs to be carefully allocated over a wide constituency prior to and during the launch period. Abratt (1986) shows how for high-tech firms, companies need to utilise a wide range of information channels / media over the 'awareness / interest' and 'evaluation / selection' stages of the potential customers new product choice process. Further, McKenna (1985), Kotler (1986) and Wind & Mahajan (1987) have explored the wider 'shores' of new product communications. In particular, McKenna, based on his work for the US West Coast venture capital community and Intel and Apple, has underlined that for high-tech products a key element in their success is the need to persuade the industry 'infrastructure' of the merits of the new product. This infrastructure includes - the trade / business press, financial analysts, industry pundits / consultants, distributors, early / influential customers etc. More recently a UK survey has supported this view (Financial Times, 13/4/89f). Data processing managers stated that their preferred information sources listed in order of priority were - manufacturers literature, editorial material, user groups, word of mouth, exhibitions and seminars - all placed above advertising in the computer press. Another report (Financial Times, 1/3/91d) also found that although nearly a quarter of computer

manufacturers marketing budgets (average equals 4.4% of t/o) goes on advertising, it ranks only eighth in effectiveness for achieving their overall marketing goals. McKenna (1991) reaches the same conclusion - 'We are witnessing the obsolescence of advertising.' This is because in an age of adaptability, flexibility and responsiveness, marketing requires a dialogue not a monologue. Feedback, which connects the customer to the company is central to the operating definition of a truly market driven company - a company that adapts to the changing needs of the customer.

It follows that launch success depends upon a close liaison with customers, and PIMS analysis has demonstrated the critical role of service. Thompson et al (1985) write that service (delivery, sales service, repairs / maintenance, warranty, product / firm image etc) is the critical edge in an era of global product standardisation. They have found that service is a significant percentage of the 'quality index' for a product, and in many markets is actually more important than the 'basic' product. When IBM announces that it is now in the systems integration business - the customer can buy any 'box' from any supplier and IBM will supply the systems know-how, McKenna (1991) asks whether IBM is marketing its products or its services. Infact over 75% of the computer business today is services eg applications knowledge, systems analysis and engineering support etc. Superior service is also a significant contributor to profitability - especially in the increasingly service-sensitive industries where a high relative service level yields an average ROI of 27%; in contrast to a relatively low-service level, yielding 20% (Thompson et al, 1985).

For new product introductions, PIMS data (Hobson & Morrison, 1983; MacMillan & Day, 1986; Lambkin, 1987) also supports the importance of 'relative **service** quality'. Results show that it can yield a double benefit of higher market share and higher ROI. In contrast, higher 'relative product quality' only results in a trade-off between market share (+ve benefit) and ROI (-ve benefit) - although this outcome was recorded prior to evidence demonstrating that higher product quality can lead to a cost 'free' competitive advantage (eg Jacobson & Aaker, 1987).

In addition, Lele (1983) writes that '.... service is usually the weak spot in a (high-tech) company's defensive perimeter. Much less is it recognised as a potentially strong offensive tactic.' Riggs (1983) also sees field service as a vital competitive weapon and recommends that reporting should be direct to senior management. Similarly, Davidow (1986) emphasises the role of top management in orchestrating service standards as a key strategic weapon. In doing so firms are better able to charge premium prices, although the merits of a premium price are critically dependent upon the competitive alternatives. Consequently, price is included in the analysis of launch strategy because it is a marketing variable particularly conditioned by decisions taken at launch ie 'skimming' v 'penetration' strategies. However, it is incorporated with the 'quality' dimension because from the potential customer's perception any product or service is judged in terms of its relative value rather than just its 'price'.

For high-tech, short life cycle products the decision can be difficult since a higher price yields the benefits of pricing

flexibility and potentially earlier break-even, but a lower price should facilitate faster market penetration and the possibility of a greater market share. However, the latter decision assumes that prospects are price sensitive - not necessarily the case in high-tech markets where service can be of greater importance. Overall, the available evidence suggests that superior customer value is the key to share gain (Chussil & Schoeffler, 1980; Jacobson & Aaker, 1987), meaning high quality (the product and service package) coupled with an attractive price. But pricing policy needs to be carefully tuned. The evidence for new products suggests (Hobson & Morrison, 1983; MacMillan & Day, 1986; Lambkin, 1987) that an effective value-offer is best achieved where the service / quality package is superior to competitors whilst price is set at an equivalent (or slightly higher) level than that of major competitors. As Hobson & Morrison write -

> 'The winners in our sample were providing "fair" value - a high level of quality for a premium price; the market share losers .... were providing "unfair" value - a low level of quality for a premium price.'

Researchers such as Cooper & Kleinschmidt (1987a & b) and Link (1987) have also found that the quality / price equation is a powerful contributor to new product success, and in electronics, Zirger & Maidique (1990) concluded that a new product must provide significantly better value to the customer if it is to be successful.

4.5.3. (i) Hypothesis Development for 'Market Focus'

Ho(i): The degree of **market focus** undertaken for the launch of a new product has no impact upon the early commercial success of that product.

Ha(i): The greater the **market focus** undertaken for the launch of a new product the greater the early commercial success of that product.

The real worth of relative marketing expenditure, effective customer service (performance) and product value can only be maximised if marketing effort is focused upon the most promising customers. This section explores the important attributes of potentially 'lucrative' target segments and prospects.

It has been argued that fighting for market share in high growth markets can be an illusory objective unless the market yields a significant competitive advantage (Aaker & Day, 1986). Indeed, McKenna (1991) maintains that fighting for 'share points' is debilitating. Companies should seek to 'own' the market - much as Apple 'invented' and owned the desk-top publishing market. Expressed more graphically - 'Marketing *should not be* an expensive fight over crumbs, rather a smart effort to own the whole pie' (McKenna, 1991). The imperative is therefore to operate in markets that are consonant with the firms' distinctive competencies. For (smaller) high-tech firms this invariably means that they should seek to dominate niche markets, and many researchers in the UK and the USA have found this to be the case (eg Slatter, 1985; Clifford & Cavanagh, 1986; Davidow, 1986; Modiano & NiChionna, 1986).

QUESTIONS USED TO STUDY 'MARKET FOCUS'

a) Did you SEGMENT the served market ?

|- There was little opportunity for segmentation - little differentiation
|-
|- The total market was divided into several segments. We served one of them
|-
|- We sold to a specialised niche market - there was considerable differentation

b) To whom were EARLY SALES made ?

|- We sold to anyone - they were mainstream businesses
|-
|- We targetted more progressive firms
|-
|- We targetted those companies known to be innovative leaders. They were often our regular customers

c) RELATIVE to leading competitors what type of customer was the focus of your SALES EFFORTS?

	Customer size	% of total market sales these customers account for	Number of customers	
Much smaller	|-	|-	-|	Far fewer
	|-	|-	-|	
About same	|-	|-	-|	About same
	|-	|-	-|	
Much larger	|-	|-	-|	Many more

d) About how many immediate customers accounted for 50 % of product sales
_____Customers

e) Were REPEAT PURCHASES a feature of sales in the first year after launch?

|- Most sales were to one off purchasers (90 % or more)
|-
|- About half the purchasers bought only once
|-
|- Most sales were to repeat purchasers (90% or more)

Source: Appendix 6.6., Section 3.3.

Within these niches it is also important that specific customer types are targetted. The 'diffusion of innovation' literature has long identified the importance of targetting innovators / opinion leaders (Rogers, 1983). But, additionally, it has been shown that greater market success is more likely where the innovator is able to target customers (lead users) who have participated in the innovation process - contributing ideas and support (eg Parkinson, 1985; von Hippel, 1986; Foxall, 1989). However, customer involvement by itself will not secure market success. The innovator also needs to carefully select prospects using such criteria as size and likelihood of repeat business. Evidence from the PIMS 'stable' provides a clear indication that more successful companies are selling to customers who are both relatively larger and fewer in number than those sold to by the competition (Hobson & Morrison, 1983; Thietart & Vivas, 1984 and Buzzell & Gale, 1987). Clearly, the savings for industrial companies can be enormous given the high proportion of marketing expenditure that is devoted to selling and distribution eg McDonald (1989) claims that distribution accounts for about 20% of the final selling price of the average product. Additionally, concentration of effort provides an opportunity to maximise the effectiveness of customer service at lower cost.

A further means of economising on effort, whilst increasing returns, is where (satisfied) customers repeat purchase. The worth of such purchases has been demonstrated by Cardozo et al (1988) who found the success rate of novel industrial products is

substantially enhanced through the identification of more productive customers. They recommend that managers should nurture 'promising' firms by concentrating their resources upon those that buy in the first year of commercialization and whose first repeat purchase occurs within a year of the initial purchase.

Rank Xerox (Financial Times, 13/4/91d) provide powerful support for the implications of this finding. Evaluating their non-repeat business, they found that it cost them $8.5m in 1990 - or over three years, $30m in lost sales! Their solution to improve the situation was to implement a Total Quality Management program designed to improve their standards of customer service - a key consideration in section 4.5.2. (marketing effort).

4.6. CONCLUSIONS

The Chapter has justified the major components and contributory elements of the model employed to explain the impact of launch planning 'sophistication' (primary hypothesis) and marketing strategy 'concentration' (secondary hypothesis) upon new product early commercial success. For this purpose a series of tertiary hypotheses have been proposed, designed to capture the important 'ingredients' of planning and strategy.

The summary titles are set out on the facing page, followed by brief descriptions of how each of the component parts combine to produce the two main independent variables.

1. Planning Sophistication

(i) Market Analysis for Launch
(ii) Formalisation
(iii) Participation / Integration
(iv) Characteristics of the Plan
(v) Monitoring & Control
(vi) Flexibility

The model of launch planning does not follow the 'simplistic', dichotomous 'formal' or 'informal' approach to categorising planning practice. Rather, it takes the (sophisticated) view that planning activities should be studied as an extended, multi-dimensional process that spans the point of market introduction - from initiation to implementation. The evidence reviewed has suggested that greater effectiveness in launch planning is achieved with a process that incorporates - the wider acquisition and use of information, more formality, more participation from stakeholders, 'tighter' plans, more extensive monitoring & control and a greater degree of flexibility during the introduction stage of the PLC.

In our model, planning leads to a strategy, and this second main variable was condensed into three elements -

2. Marketing Concentration

(i) Market Ambition
(ii) Marketing Effort
(iii) Market Focus

The literature suggested that the impact of marketing strategy upon commercial performance was more likely to be

successful where firms adequately supported ambitious market targets, maximised their efforts for the key marketing mix variables and focused these efforts upon carefully identified prospects. This approach to strategy has been called 'concentrated' because it seeks to achieve the greatest leverage from the available resources, which are deployed on a narrow front to enhance their impact. This is best done through careful planning.

In Part Four that follows, the research process by which the hypotheses were tested is set out. Of note is that together with the literature review just completed, the evidence presented suggests that the choice of industry and sampling unit ensures that the research results are widely applicable.

PART THREE

THE RESEARCH PROCESS

CHAPTER FIVE

THE RESEARCH CONTEXT - UK Mid-Sized, High-Tech, Manufacturing, Electronics Companies

5.1. PURPOSE AND OVERVIEW

This Chapter justifies the selection of the electronics industry as a source of the sampling unit. The primary reasons for the choice are threefold - (i) the industry underpins much of the progress made in the advanced economies over recent decades; (ii) rapid technological change ensures that survivor firms engage in a continuous R&D battle that sharpens NPD practices; and (iii) their development processes have wide spread implications and general applicability. As such there is much to learn from the innovative behaviour of electronics businesses.

Because a decision has been taken to restrict the survey to a particular kind of organization (the mid-sized, publicly quoted company) and a single industry, it is considered important to establish precisely which type of firm is be included in the research. The Chapter therefore begins by defining a high technology (high-tech) firm. This leads to a discussion of the disproportionately large contribution made by mid-sized firms to national wealth, and in particular the contribution of smaller high-tech companies to the total innovative output of the electronics industry. It is also shown that corporate performance is normally distributed within the population to be sampled for this research, and by implication their innovation capabilities

Finally, a case is made for the assertion that the results of the research will be applicable far beyond the electronics industry.

5.2. DEFINING THE HIGH-TECH FIRM

In focusing upon a particular type of organization the research design is tightened by the introduction of an additional 'control'. Methodologically it is therefore important to define what is meant by 'high-tech'. Inevitably the term has been interpreted in a variety of ways and Shanklin & Ryans (1987) in their high-tech marketing text concluded that the characteristics of high-tech markets are that -

* The business requires a strong scientific / technical basis;

* New technology can obsolete existing technology rapidly;

and

* As new technologies come on stream their applications create or revolutionise markets and demands.

As a rough guide this makes a useful starting point, but for operational reasons needs greater refinement. Thompson (1987) provides a comprehensive review of the alternative approaches and definitions. In all he identified several dozen research studies which were then categorised into four main groupings. Briefly, these were delineated as -

(i) An implied understanding of what constitutes high-tech

(ii) An explicit, but subjective, choice of what constitutes high-tech eg highly innovative firms.

(iii) The selection of a single industry or narrow group - eg instruments, semiconductors etc.

Continued ....

(iv) The use of one or more explicit attributes believed to identify high-tech on the basis of a theoretical appreciation of the subject.

Of these approaches the latter is the most academically satisfactory. But, as Thompson found in his review, there are at least 23 'applied index' definitions. However, they show certain consistent features, and for our requirements the criteria employed are - 'R&D expenditure as a percentage of output', 'rate of technological innovation', and 'a labour force bias towards administrative, technical and R&D workers'. In the UK these considerations have been formalised by The Department of Trade and Industry (Butchart, 1987) in 19 four-digit SIC codes (Appendix 5.2.). For the purposes of the research the high-tech focus has been further refined to concentrate upon those 'mid-sized' companies that belong to perhaps the most pervasive 'member' of the high technology community - the electronics industry.

5.3. THE VALUE OF MID-SIZED COMPANIES TO THE NATIONAL ECONOMY

The significance of mid-sized businesses to the national economy was first signalled by Clifford (1973). He drew attention to the dynamic potential for rapid growth of the 'threshold' company - defined as a business with sales between $20m to $200m. Some years later Clifford (1977) went on to demonstrate that the 'best' of these companies could even out-perform their giant competitors in recessionary conditions. Subsequently Clifford & Cavanagh (1983 & 1986) extended the earlier studies

with the use of the Profit Impact of Market Strategies (PIMS) data base allied to a performance analysis of the American Business Conference (ABC) group of companies. These 100 superior-performance mid-sized enterprises have yearly sales of between $25m and $1bn and a five year annual compound growth rate of at least 15% in sales or earnings.

A brief summary of the findings is shown below in Table 5.3. They demonstrate conclusively just how great a contribution these firms make to the US economy and by implication the potential for similar firms in the UK.

When discussing the reasons for their success, three-quarters of the ABC companies attributed it to frequent innovation, niche competition and competing on the basis of value rather than price. Since innovation is the theme of this research, the emphasis given to innovation is of particular significance.

Table 5.3.

The Relative Performance of America's 'ABC' Firms

Annualized Years 1978-83	**Fortune 500 % growth**	**ABC Firms % growth**
Sales	7.7	18.4
Net income	5.9	19.7
Market value	16.3	37.8
Return on equity	13.7	16.4
Asset	9.5	23.6
Rate in employment	-0.5	10.0
Capital spending	5.6	17.1

Source: Clifford & Cavanagh; The Winning Performance (1986).

A similar pattern has also been observed in Europe's most successful economy. West Germany's 'mighty mice' *Mittelstand* companies - employing from 50 to 5000 people - have been called the powerhouse of the manufacturing sector (Financial Times, 22/5/89b). They produce around one half of Gross Domestic Product (GDP), employ two third's of its workforce and have been responsible for the creation of 75% of all the Republic's new jobs over a recent ten year (1979 to 1988) period. They are also described as flexible, innovative and export-minded (Economist, 24/9/88a).

5.3.1. Evidence Related to the Contribution of the Midsized UK Firm

Data on the performance of 'smaller' UK quoted companies has been compiled by London stockbroker's Hoare Govett (in their Hoare Govett Smaller Companies "HGSC" index) since February 1987 (but backdated to 1955). The index comprises about 1220 firms constituting the lowest 10% by capitalisation of the main UK equity market. Analysis shows that the HGSC index has outperformed the FT all share-index in 27 out of the last 34 years (Financial Times 22/4/89c) eg since 1955 the HGSC index has produced a compound annual return of 20%, equivalent to an out-performance of 6% a year.

On a broader base, the Economist (17/6/89b) reported that around the world smaller companies funds have been out-performing their market averages. As an example, a global index of about 2100 smaller companies (market capitalisation $30m to $400m) in 18 markets outperformed the total market by 3% in the

first quarter of 1989.

Whilst this data is not strictly comparable with the more comprehensive US analysis it is clear that the world-wide empirical evidence points in the same direction. Mid-sized / smaller companies are on average more 'successful' than their larger brethren. Of course these results should come as no surprise since the growth potential of smaller firms must be relatively greater than that of the corporate giants. However, two additional factors also need to be taken into account -

First, smaller / mid-sized companies are the feedstock that revitalise the corporate sector. As Chandler (1990) argues in iconoclastic fashion, over the long run smaller firms have to grow large - 'big is beautiful'! In a study of 200 (ultimately) large American, West German and British firms he found that they all evolved in a remarkably similar fashion. The 'first mover' companies were those that succeeded. These firms were the first to make 'the essential, inter-related, three-pronged investment in production, (international) distribution and management'. In all his cases (eg General Electric, Westinghouse, Du Pont, General Motors, Bayer, Siemens, AEG, ICI and Unilever) expansion and profitability 'required the balance of many production, marketing and financial variables' and the people capable of making these decisions were 'trained and experienced, full-time salaried managers'.

Second, smaller, younger firms have shown during this necessary growth an innovative record that shames many of our moribund corporate giants. It has been argued (Owen, 1990) that

Chandler pays insufficient regard to technical innovation. However, by way of illustration, Chandler shows how the West's mechanical-typewriter makers were dethroned by Japanese companies like Brother that poured electronic models onto the market. These initially small firms not only innovated, they also followed the first 'mover principle' to grow big. As a model of this process, Compaq is an excellent paradigm. Founded in 1982, it ran itself as 'a major company in its formative stages', not just 'a small company with big plans'. Today it is the world's third largest PC maker with 1990 sales of $3.6bn (Financial Times, 26/10/91a)!

In the next section two related issues are examined that follow from these findings. Firstly, the contribution of the high spending R&D industries to the national economy and secondly an examination of the particular contribution of the smaller / mid-sized firm to innovative output. This analysis is conducted in the light of both international and UK evidence.

5.4. THE CONTRIBUTION OF THE HIGH R&D SPENDING MANUFACTURING SECTOR TO THE ECONOMY

As North Sea output tails-off and service sector exports fail to bridge the balance of payments current account deficit, UK manufacturing industry is again the centre of attention. In this Section it is demonstrated that sustained economic growth depends upon a strong manufacturing sector in which high R&D spending (high-tech) firms make a disproportionately large contribution.

The reasons are many faceted and the key issues are addressed below - drawing to the logical conclusion that the UKs future prosperity lies with our skills intensive, technology based industries.

5.4.1. Manufacturing Growth and the Balance of Payments Constraint

Manufacturing is a dynamic engine of growth. It produces a quarter of UK output. Therefore a one percent increase in manufacturing output will increase GDP by one-quarter percent. Allied to this, manufacturing is the most important source of innovations, stimulating productivity which filters through into the rest of the economy. Further, whilst much has been made of the service industries 'replacing' manufacturing output, over one-fifth of the demand for services is generated by the manufacturing sector! Thus services are partly dependent upon manufacturing and manufacturing can act as a catalyst for services.

But the most powerful justification for a strong manufacturing sector relates to its impact upon the UK balance of payments. In the long run an economy's current account needs to balance although there can be substantial cyclical deviations - greatly influenced by economic growth. Periods of high income / consumption growth are strongly correlated with high import demand. If exports do not grow at the same rate a balance of payments deficit will appear, income will have to grow more slowly to restrain imports and hence national economic growth will be reduced.

More than one-third of the UK current account is made up of manufactures which therefore have a key role in paying for imports, ensuring that the UK trade position does not become a constraint on growth. However, since 1980 the net export balance in oil output (Monthly Review of Statistics) has been one of the main reasons why the manufacturing trade balance has moved into deficit. This is because an overall balance of payments surplus, largely the creation of an oil surplus, pushed up the exchange rate. The result was that a significant proportion of manufacturing industry found itself uncompetitive, both at home and abroad, and was forced out of business. But the oil export surplus may well only last until the turn of the decade. Unfortunately, writing-off redundant factories is easier than creating new, high value-added manufacturing capacity.

Overall the UKs poor record in the growth of manufacturing output is demonstrated by our relative performance against major competitors. This is shown in Table 5.4.1. (opposite). It is apparent that over a period of 28 years the UK has been at the bottom of the league table.

5.4.2. The Role of R&D in Manufacturing Performance

When one examines the two key performance indicators of export performance and output growth for the UK economy over the period 1973-86 it is clear that the most successful, dynamic industries are those that tend to have a high technology content eg office machinery & computers, pharmaceuticals, electrical machinery, electronic components, precision instruments etc

Table 5.4.1.

Growth of Manufacturing Output: International Comparisons

	Average Annual % Growth Rate	
	1960-1987	1979-1987
UK	**1.6**	**0.1**
USA	2.2	2.5
W. Germany	3.1	0.8
Canada	4.1	1.2
France	4.5	0.7
Italy	4.5	1.8
Japan	8.8	6.1

Source: OECD Historical Statistics, Main Economic Indicators.

(PA, 1988). Further, OECD analysis has shown that the UK is most successful in increasing market share in high R&D industries.

The six fastest growing industries are also the six which are the most R&D intense (ie with the highest ratio of R&D spend to output) -

Table 5.4.2(a).

R&D Expenditure and Economic Performance

Group	R&D spend/ output %	Average p.a. output growth 73/86 rank
Electronic components	15.3	3
Aerospace	13.0	4
Office mchnry. & comps.	12.0	1
Pharmaceuticals	10.0	2
Precision instruments	2.6	5
Chemicals	2.0	6

Source: PA Consulting Group (1988).

Unfortunately, the UK is spending considerably less on R&D as a percentage of GDP than many of our major competitors. This is shown in Table 5.4.2(b). below.

Table 5.4.2(b).

Gross Spending on R&D as a Percentage of GDP, 1987

	%
Japan	2.9
Germany	2.8
Sweden	2.8
USA	2.7
UK	**2.3**
France	2.3
Italy	1.3

Source: OECD Science and Technology Indicators (1981-87).

To compound the problem, the UK is the only one of these countries in which the number of R&D personnel has actually fallen during the period 1981 to 1985 (OECD, 1988).

Table 5.4.2(c).

R&D Financed by Industry in 1983

	$ per capita
Switzerland	136
Japan	117
Sweden	109
USA	105
W. Germany	64
France	55
UK	**50**
Italy	23

Source: Patel & Pavitt (1987).

This is reflected in the work of Patel & Pavitt (1987), which shows that of a group of ten countries, UK industry was ranked second from bottom in terms of R&D financed by industry (Table 5.4.2[c]. opposite).

These findings make grim reading when complemented by the work of Morbey (1988). Over a ten year period (1976-85) he found that in the USA there was a strong association between R&D spending and growth of sales (in a causal sense from R&D to growth), but a **threshold** level of R&D funding had to be exceeded if R&D was to contribute to future sales growth. This threshold was about 3% of corporate revenue.

In terms of total expenditure upon R&D a useful contrast between Tables 5.4.2(b). and 5.4.2(c). should be made. The apparent discrepancies are reconciled by the much higher proportions of government funded defence R&D found in the UK, France and the USA (OECD, 1988). This is a cause for some concern. As a 1988 NEDO publication (prepared by McKinsey & Co.) pointed out, the UK electronics industry is too dependent upon Ministry of Defence contracts. The report foresaw a stagnant defence market for the following 5 years, and as recent events in Eastern Europe and the (former) Soviet Union have demonstrated even this forecast may be over optimistic.

It is partly for this reason that the research has chosen to concentrate upon smaller, quoted electronics companies with little or no defence sales. All the available evidence suggests that the range of skills painfully acquired by these companies, competing in

free and open markets, are those required for success in the international markets.

5.4.3. The International and UK Electronics Industry

By some accounts (Financial Times, 23/1/89d), because of the ubiquitous nature of electronics, the industry is now the world's largest with a 1990 production estimate of $900bn (Financial Times, 5/4/91b). Of this total, the UK is expected to contribute $45bn, number four in a league table headed by the USA ($330bn), followed by Japan ($220bn) and West Germany ($55bn). These output figures covering the following sub-groups -

> Data processing, Office equipment, Controls & instrumentation, Medical & industrial, Communications & military, Telecommunications, Consumer products, Components & semiconductors.
>
> (Based upon 'Mackintosh' electronics industry data.)

As such it should be remembered that the UK has Europe's second largest electronics industry - a total market expected to grow by five percent over the three year period 1991-1993 to $225bn (Financial Times, 16/11/89e). More specifically, the UK electronics industry has been the UKs fastest growing sector (NEDO, 1988) with an enormous potential for the future. However, this has not prevented the UK from running a $3.9bn trade deficit in 1988. Exports grew strongly over the preceding year (up 14%) - from £9.8bn to £11.4bn, but imports grew even faster (up 15%) from £13.3bn to £15.3bn.

It would therefore appear that the clouds are gathering over another sunrise industry unless remedial action is promptly taken. To this end changes appear necessary on two broad fronts. Firstly, industry rationalisation and consolidation seems to be required. As the McKinsey inspired NEDO report (1988) suggests 'critical mass' businesses need to be created as viable competitors on a world scale. This underlies the takeovers of Plessey and ICL. Secondly, the formation and growth of smaller companies needs to be facilitated. A vibrant industry requires the innovative risk taking of smaller growth companies allied to the 'muscle' of larger firms. As rationalisation and growth proceed, gaps will open in the industry structure that will either be filled by smaller growing indigenous firms or overseas transplants / imports.

The potential for UK firms certainly exists. Utilising Datastream figures, 83 industrial manufacturing / distribution public companies have been identified. These were categorised by size, turnover and age (Japanese firms excluded) and are shown in Table 5.4.3. overleaf. Turnover is distributed in a 'classic' pareto form with the top ten percent of companies accounting for about three-quarters of sales whilst the bottom one-third account for just over one percent of sales.

This leaves the threshold / mid-sized firms providing a little less than a quarter of total output. They also form the most numerous grouping - numbering 62 companies (three quarters of the total). It therefore seems that the potential of these businesses is substantial; especially true when it is borne in mind that of the eight largest companies, three have overseas parents,

whilst the UK firms have substantial exposure to defence requirements.

Table 5.4.3.

Relative Data on UK Electronics Companies by Size

Category*	Total sales £m	No. firms £m	Av. Sales per firm	Average age of firm in years	% of total industry sales	Av. size rel. to large firms
Small (t/o<£10m)	59	13	4.5	17	0.24	1/506
Threshold (£10m<£15m)	191	15	11.9	29	0.80	1/192
Mid-sized (£15m<£600m)	5420	47	115.3	28	22.63	1/20
Large (t/o>£600m)	18281	8	2285.2	63	76.33	1/1

Source: Datastream figures from annual accounts (1987).

***Note:** In the analysis shown in the table above, 'MID-SIZED' companies have been further divided into 'mid-sized' and 'threshold' on the basis of turnover. The purpose is to aid evaluation. Subsequently these two categories are merged to meet the general criteria of the research.

5.5. THE SPECIAL ROLE OF THE MID-SIZED AND SMALLER HIGH TECH COMPANY IN PRODUCT INNOVATION

In recent years it has become common place to accord the mid-sized and new technology based firm (NTBF) a special place in the output of innovations. It is the purpose of this Section to review their role, paying particular regard to (a) their contribution to both radical and incremental innovation and (b) the impact of firm size upon innovative output.

Rothwell (1984) found evidence to suggest that many radical innovations are made by large firms, but it is the NTBF that exploits and diffuses the break through. An example of this is the work undertaken by Zerox on PC 'windows' and 'icons', subsequently exploited by Apple. As such Rothwell emphasises the dynamic complementarities between smaller and large firms.

More specifically Ettlie & Rubenstein (1987) found that the output of radical innovations by firm size is like an inverted 'U'. American firms with up to 1000 employees are neither more nor less innovative - although lack of funds can act as a critical constraint. However, between 1200 and 11,000 employees there is a direct correlation with radical innovation, but large firms with over 45000 employees are unlikely to *introduce* such innovations. This finding is supportive of Rothwell and the contention that mid-sized firms occupy a pivotal role in the development and introduction of both radical and incremental innovations.

Work in the UK by Pavitt, Robson & Townsend (1987) also lends support to the argument that small and mid-sized firms have a greater innovative output than their relative R&D intensity would suggest. In a survey of 4378 'significant' innovations they found that firms with fewer than 1000 employees had a greater output of innovations **per employee** than firms with more than 10,000 employees. On a sectoral basis this relationship held good for the electronics industry.

Ironically, Pavitt et al describe a 'U' shaped relationship between innovative activity and firm size - the inverse of Ettlie &

Rubenstein's (1987) description. But these results are not contradictory - rather complementary. Pavitt et al included process innovations in their sample which inevitably boosted the total innovative output of the largest companies. Additionally the difference in firm size categories chosen by each set of researchers leads to an overlap in their findings.

In summary the two sets of results show that smaller and mid-sized (high-tech) firms make a disproportionately large contribution to the innovative output of the UK and US economies, recently confirmed by Chakrabarti (1990) in a US context. He also found that although the level of R&D expenditure contributed to the out-put of new products, consistency of R&D effort was at least as important.

5.5.1. The Performance of UK Mid-Sized, Quoted Electronics Companies

The evidence cited above has drawn upon published research. To conclude this Chapter it is worthwhile undertaking a further evaluation of the data taken from Datastream (Table 5.4.3.) and further analysed in Table 5.5.1(a) below. In total 70 large, mid-sized and threshold UK quoted electronics companies were identified. Based upon US criteria these companies were categorised as follows -

8 were 'large' (Sales > £600m)
47 were 'mid-sized' (Sales £15m < £600m)
15 were 'threshold' (Sales £10m < £15m)

The performance of these companies was then evaluated in terms of their relative financial performance, as shown below -

Table 5.5.1(a).

Relative UK Electronics Company Performance: By Size

	Average for the Years 1983-87 (inclusive)		For the Year 1987	
	Sales growth %	Sales per employee growth %	Sales per employee £ '000s	Pretax profits to sales %
Size				
Large	63	41	69	7
Mid-sized	206	50	70	9
Threshold	187	34	47	9

Source: Datastream figures from annual accounts (1987).

The criteria for the performance data chosen were as follows -

a) Sales growth over a five year period indicates how rapidly (and consistently) the company is growing.

b) Sales growth per employee over the same period indicates how well the firm is improving its utilization of staff and equipment.

c) Sales / employee in 1987 indicates the effectiveness of staff utilization at the end of the five year period.

d) Pretax profits to sales (ROS) in 1987 is a 'fundamental' measure of management performance - the merits of which were lauded in Management Today (February, 1987).

Table 5.5.1(a) shows that overall, mid-sized firms out-performed the two other groups. Large firms experienced the

'worst' performance whilst threshold firms did reasonably well. These results are in line with the US experience cited earlier and lend support to the contention that mid-sized firms are a group of businesses from which there is much to learn.

From an experimental perspective it is also valuable to examine how performance levels are distributed over each size category of firm. This is because the sample taken from the mid-sized population should contain a good mix of performance levels.

Each company was ranked on the financial / sales performance criteria set out above, with the top performing company receiving a ranking score of one, the next best a score of two and so on. These scores were then added for each firm and the totals used to separate the different sized groups into 'high', 'average' and 'low' performing firms. The results are shown in Table 5.5.1(b)., and it is apparent that levels of performance are well distributed over the different business size categories.

Table 5.5.1(b).

Distribution of UK Electronics Company Performance by Size

	Financial / Sales Performance		
	High	**Average**	**Low**
Size			
Large	2	4	2
Mid-sized	17	14	16
Threshold	5	5	5

Source: Datastream figures from annual accounts (1987).

In consequence it is logical to assume that any large enough random sample will contain a good mix of 'high, average and low' performing companies. Whilst our research examines innovation at the project level it is reasonable to propose that success at the project level will translate into more extensive program success. This issue is examined in section 7.2.5., but in anticipation it can be reported that the research results do indeed suggest a correlation between project and program success.

5.6. THE WIDER IMPLICATIONS OF AN INDUSTRY SPECIFIC STUDY

In our research we elected to concentrate upon an industry and a particular type of firm. It is therefore appropriate to question just how relevant the findings are to the wider business community. The answer in short is - 'very relevant!'

The earlier discussion has noted the enormous size of the world electronics industry and its all-pervasive nature. Further, the mid-sized firm has been identified as an important contributor to this industry's total innovative output. Consequently, it is reasonable to presume that this relatively large corpus of dynamic businesses will have much to teach us about the practice of innovation. The rapidity of change in high technology also means that firms operating in these dynamic markets have to be leaders in new management approaches and organizational design. For example, aspects of NPD such as CAD, simultaneous engineering and project teams have all been pioneered within the high-tech community. As such, there is every reason to believe that the best practices of these experienced innovators will be relevant to a

wide range of other (industrial) organizations operating under analogous conditions ie most businesses where the pace of change is fast and the pressures great to bring new products to market quickly.

It is also worth registering that in industrial NPD research, samples that have been exclusively drawn from the electronics industry (eg Maidique & Zirger, 1984; and Zirger & Maidique, 1990) show results consonant with the findings from more catholic studies (eg Yoon & Lilien, 1985; Cooper & Kleinschmidt, 1986 and Link, 1987). In addition, these latter researchers used samples which incorporated a substantial proportion of electricals / electronics manufacturing firms (ie 26% to 38% of the total). No significant differences were reported between the industry groups included in these surveys. It is therefore reasonable to assume that the reported findings are representative of all firms and that the sub-groups did not differ significantly from one another. This is also implicit in Clifford & Cavanagh's (1986) examination of the top performing mid-sized US corporations.

We may therefore conclude that an electronics industry study has wide implications. Interpreted cautiously, the findings will be relevant in both the wider academic and practical spheres.

5.7. CONCLUSIONS

The Chapter has defined the 'unit' of analysis in the research. The characteristics of high-tech firms have been described and more specifically the range of company types comprising the

electronics industry identified. The electronics industry is believed to be the world's largest and most pervasive, and by virtue of its size and importance a worthy subject of study.

It has been shown that high-tech manufacturing companies are a vital component in successful, advanced economies, with UK high R&D spend firms enjoying relatively faster growth. But whilst the electronics industry has enjoyed substantial growth it is currently running a balance of payments deficit. Given the concentration of the largest UK firms on defence electronics it may well be possible for smaller and mid-sized businesses to 'take up the running' in the commercial sector.

Analysis of the performance of the smaller and mid-sized company population demonstrates that their contribution is substantial. In the US the 'ABC' group of companies are exceptional performers whilst in Germany the *Mittelstand* form the back-bone of the economy. Similarly, 'smaller' quoted UK companies have consistently out-performed the stock market average.

This superior performance is also reflected in the innovative output of 'smaller' firms. As a percentage of innovations per employee they contribute a higher proportion of (radical) innovations than any other group and it is maintained that the research design, concentrating upon mid-sized firms, has much to teach the general corporate community. Additionally, the analysis undertaken in the Chapter has shown that the relative performance of companies within this sector is distributed 'normally'. Consequently, in terms of the experimental design discussed in

Chapter 6, there is a reasonable expectation that the results will reflect a good spread of corporate practices.

Although it has been argued that 'smaller' companies should grow large to survive and flourish, it is worth noting that larger firms have to strike a compromise between scale economies and flexibility (Lorenz, 1988). As such, the mid-sized firm is an especially sensitive barometer of the delicate balance that has to be struck between innovative capacity, centralization and strategic business unit (SBU) size.

As such, we are confident that whilst NPD research into the electronics industry is justified in its own right, the findings will have implications for a much broader spread of organisations.

CHAPTER SIX

THE RESEARCH METHOD

6.1. PURPOSE AND OVERVIEW

The Chapter begins by 'setting the scene' with an overview of the methodology and research design used in the study. This is followed by an analysis of the type of dependent variable most appropriate to the research, developed from an evaluation of the criteria used by other researchers at both the NPD program and project level. It is shown that the effort put into a launch should realistically be measured one year after market entry, and that a composite measure of performance is most appropriate - utilising researcher determined, objective scales. Launch performance is defined as 'new product commercial success one year after launch'.

Because all the launches were considered successful by the respondents, performance is judged relative to the other sample unit results. For the purposes of analysis this allows the launches to be ranked from the most to the least successful.

The Chapter goes on to explain why data collection was most appropriate through personal interview rather than the more formal / 'distant' means of mailed questionnaires. This leads on to a description of the methods employed to screen and select the sample companies and how senior managers were approached and their compliance secured.

With regard to the Interview Schedule, attention focuses upon the validity and reliability of the constructs used. It is explained why precedence was given to the issue of validity and how both of the concepts were evaluated. Within the parameters of

the research it is shown that, given the trade-off's between validity and reliability, the questionnaire was an acceptable measuring instrument.

There follows an appraisal of the practical aspects of the fieldwork. This covers the organisation and timing of the main study over the period January 1990 until August 1990.

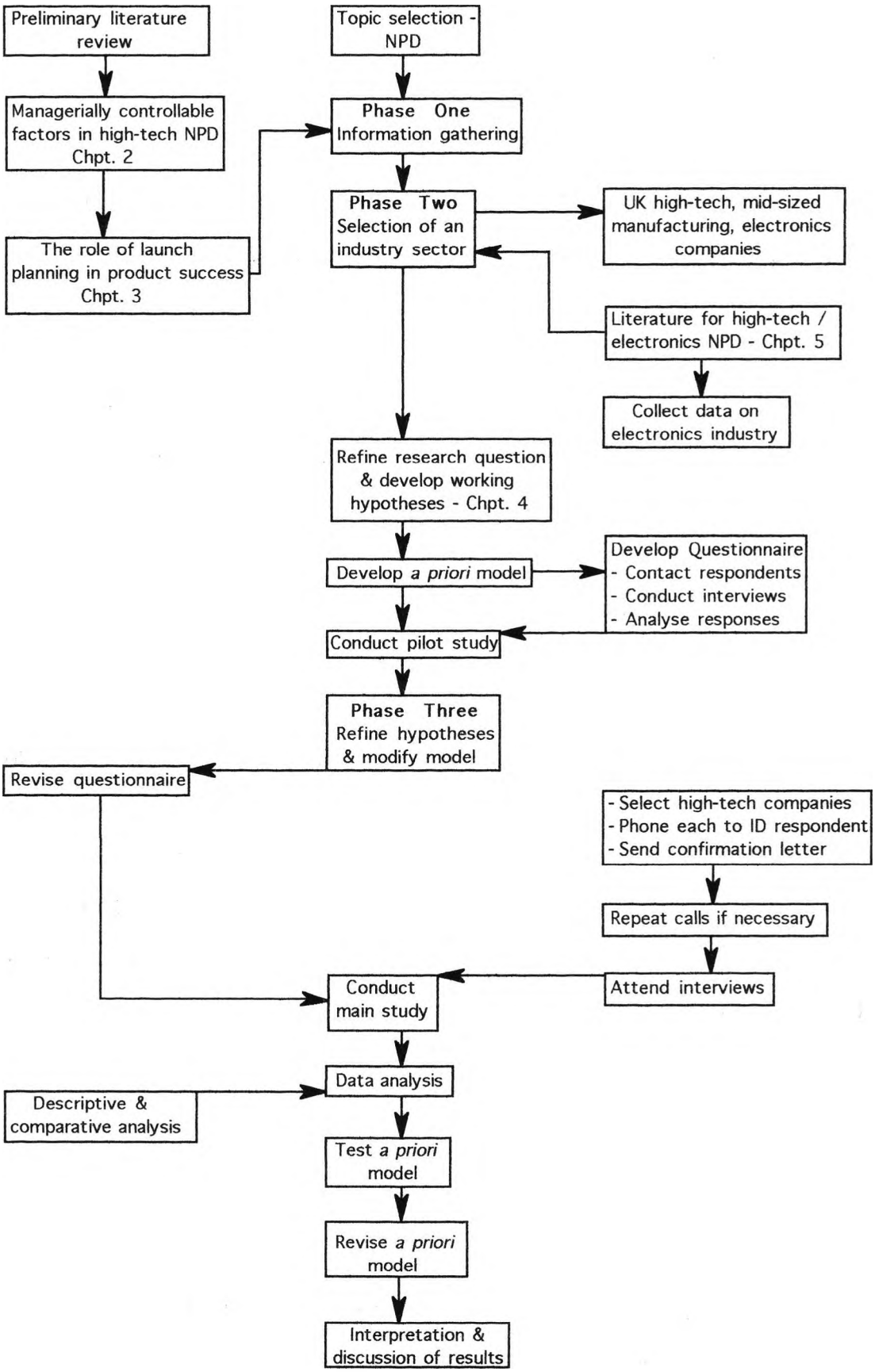
Finally, comment is made regarding the software packages employed for the quantitative analysis of the data, and the use made of recorded discussions for the provision of qualitative information.

6.2. THE METHODOLOGY ADOPTED

The method employed in this research is the hypothetico-deductive approach. Part Two of the study reviewed the literature. It was shown that although launch planning had not previously been studied as a separate phase, it was possible by reference to the wider NPD literature, to develop a series of hypotheses that related specific launch activities to the commercial performance of new products. These relationships informed and were incorporated into a broad model of the determinants of new product success.

The hypotheses were ordered in terms of their relative 'importance' to the research question. 'First-order' hypotheses dealt with the impact of planning upon new product performance, 'second-order' dealt with the impact of strategy, and planning and

Figure 6.2.
The Research Process



strategy combined upon performance. Finally, tertiary hypotheses dealt with the impact of the constituent elements of planning and strategy upon performance. An outline of these relationships was set out in Figure 3.5.

To evaluate the hypotheses relating launch planning and marketing strategy to new product commercial success a sample was drawn from the population of UK, high-tech electronics companies. Data, elicited by personal interview, was analysed by means of parametric and non-parametric tests.

An overview of the research process is shown in Figure 6.2. on the facing page.

6.2.1. The Research Design

Following Tull & Hawkins (1990) description of experimental designs, the approach adopted in the research is that of an *ex post facto* study. By this it is meant that the researcher started with the situation of each nominated product at the time of the interview and assumed that its level of commercial 'success' was the effect of previously acting causal factors (the subject of the hypotheses).

In the strict sense this design was not 'experimental' insofar as the researcher could not *manipulate* the independent variables, although of course it was anticipated that different levels of these variables would be associated with various degrees of commercial success. As such, the research design can provide *evidence* of

causation.

Critical to this evaluation is the determination and measurement of the dependent variable, upon which the effects of the independent variables were measured. In consequence the next Section is devoted to the justification of the dependent variable employed in the research.

6.3. THE DEPENDENT VARIABLE: NEW PRODUCT EARLY COMMERCIAL SUCCESS

The dependent variable is a composite measure related to the performance of the product in the market place one year after launch. The elements of the variable are based upon the performance factors used by other researchers in the NPD field, although it must be recognised that a one year time-span has not generally been employed.

The justification of the chosen measures is undertaken in three steps. Firstly, the next section reviews the various approaches available for evaluating NPD success, from amongst which the most appropriate method was chosen. Based upon this choice the following section examines the three levels of aggregation for 'success' utilised in other work and relevant to the study. Briefly, these are objective, researcher determined measures at the corporate, NPD program and NPD project level. In the final section these strands are drawn together and the rationale for the selection of the specific measures explained.

6.3.1. Alternative Approaches to Measuring NPD Success and Failure

Before a start can be made to an analysis of the most relevant measure(s), it is first appropriate to discuss the **range of approaches** adopted by other researchers. These cover subjective and objective methods, determined by either the respondent or the researcher. The evaluation can also be 'pitched' at the project or program level. Examples of the four basic modes of evaluation taken from the industrial field are listed below (excluding composite measures) -

(i) Subjective / Respondent Determined
The new product is deemed successful by a responsible executive (eg Myers & Marquis, 1969)

(ii) Subjective / Researcher Determined
The new product launch is 'successful' (eg Link, 1987)

(iii) Objective / Respondent Determined
The new product reached (or fell short) of the minimum acceptable level of profitability - however the firm measured profitability (eg Cooper, 1979b)

(iv) Objective / Researcher Determined
New product market share one year after launch (eg Yoon & Lilien, 1985).

Of the alternatives, the approach favoured in this research is the last category - Objective / Researcher Determined.

Whilst Baker (1983) has implied that researchers should accept the judgement of respondents, the weakness in his recommendation is that the variability in NPD practices and new product performance is so great that it is unsafe to allow

practitioners the luxury of evaluating the merit of their own activities. Ultimately, new product success is determined in the marketplace, tested against measures such as market share, ROI etc, and it is by externally recognised sales and financial criteria that a new product should be judged. Where subjective measures are used there is a likelihood that the most successful firms will set more rigorous criteria for measuring new product performance than the less successful. As a result, there is a real danger that erroneous comparisons will be made. The virtues of externally set, market based criteria can also be illustrated by way of analogy - To read CEO statements in the annual company reports of publicly quoted businesses one might be led to believe that they are all doing (under the circumstances) famously. However, wishful thinking cannot cheat the market, and it is in the market that the weak are finally unmasked.

The yardstick of the market is also especially relevant for our sample of high-tech companies. It will be recalled that they were chosen because they were growing organically. As such, their growth depended very much upon a stream of successful new products - evaluated in sales and financial terms by ever critical city analysts.

Of equal importance, objective scales facilitate comparisons between firms. In our research the starting point for the control measures was that all of the launches were deemed 'successful' by the respondents. Subsequently they had to be ranked according to their relative success, and it is through the imposition of researcher determined criteria that this was accomplished.

This approach has much in common with the practice of 'benchmarking' the competition, promoted by consultants A. T. Kearney and McKinsey & Co. (Walleck et al, 1991), and familiar in the PIMS rubric as the measurement of performance relative to competitors. The logic is of course that best practice and 'world class' performance is only achieved by ruthless study of, and comparison with, the highest achieving competitors. Consequently, the research **excludes** success measures that are respondent determined and by implication frequently inward looking (eg criteria **set by and unique to the firm**). Rather, the approach adopted is for the researcher to establish a series of pre-determined variables that serve as an objective yardstick by which the launches can be judged objectively and comparatively.

It has been argued (Edgett, 1991) that this can lead to an arbitrary choice, forcing the respondent into too restrictive a classification, inappropriate for the product under consideration. However, this difficulty can be resolved by meeting three related conditions - (i) By developing a measure(s) that has been found to be valid in a variety of circumstances. (ii) Employing several success measures - success is a 'slippery' concept and the more hooks you can get into it the more likely you are 'hold it down'. (iii) Evaluating the validity of measures during the preliminary field work. Additionally, our research deals with firms, innovations and markets that in many respects are similar (see section 6.5.1. dealing with the controls employed), thereby increasing the probability that a common, imposed success measure will be equally appropriate.

In the realm of industrial NPD, the extant research was sufficient to meet the first two conditions and the third was met during the exploratory investigation. But although the objective route has been pursued, it is recognised that subjectivity has not been entirely eliminated. This is because respondents are still asked to pronounce upon performance. However, it is shown in the next section that subjective judgements can still be valid proxies for objective measures - a finding that has important implications for all research that calls upon the expert testimony of managers.

6.3.2. Evaluating Objective Measures of Performance Most Relevant to New Product Launch Success

Prior to undertaking this analysis it should be noted that the determinants of performance are not under discussion. These have been usefully outlined by Eilon (1985). Rather, it is the measures of performance that constitute 'success' that are evaluated - with a view to establishing those researcher determined, objective measures relevant to the launch of new products.

The ensuing analysis is conducted at three levels of aggregation - starting at the macro, corporate level, moving to the NPD program and finishing at the micro, project level. In the process, the literature is explored with a view to identifying recurring measures that meet the criteria set out in the previous section.

(a) Measuring Corporate Performance

Building upon the work of Peters & Waterman (1982), Chakravarthy (1986) contrasted the performance of 'excellent' to 'other' US computer firms. He concluded that conventional measures of strategic performance are largely unsatisfactory eg ROS, ROCE etc. But when moving beyond the measures largely employed by shareholders - and looking at the satisfaction of a wider constituency of stakeholders, a much closer correlation was found between overall 'satisfaction' levels and the 'excellent' corporations. Further, amongst the stakeholders were customers evaluating the businesses in terms of their innovativeness. These excellent companies were also found to generate more 'slack' resources devoted to exploring environmental uncertainty and investment in R&D. This is an important finding because the earlier literature review and the results of this study show the significance of a relatively higher investment in marketing analysis and NPD expenditure.

More conventionally, Hirano (1987) examined the compatibility of two strategic objectives - growth and profit. He shows that since 1974 there has been a positive correlation between these performance measures in Japanese telecommunications and electronics businesses. But as Funkhouser & Rothberg (1986) point out, a slavish pursuit of growth can be counter-productive. What is required is a philosophy of 'find a need and fill it' - a view typified by the market led approach to innovation associated with the dominance of the Japanese consumer electronics and semiconductor manufacturing industries.

The research cited above makes use of the subjective evaluations of the researchers and their respondents. This is a significant consideration because often in the interview situation objective data is unavailable and the researcher is obliged to 'draw-out' the respondent's subjective opinions. Certainly this was an issue in our research. However, Dess & Robinson (1984) studied the problem, finding that at least for subjective measures of ROI and sales growth, management judgements are good surrogates for objective data. Although not conclusive, these findings suggest that any 'subjective' data called for in the thesis can yield experimentally valid information.

In summary, research has indicated that the success of 'excellent' companies is reflected in terms of innovativeness (eg R&D to sales expenditure) and that growth, over time, does not detract from long-term profitability. Additionally, stakeholders judgements of corporate behaviour can be satisfactory indicators of 'objective' performance.

(b) Measuring Success at the NPD Program Level

It was noted earlier in this Section that corporate success can be based upon many more determinants than just the introduction of new products. But one would expect that for fast-growth, high-tech firms, organic growth through product innovation should be a key component of expansion (discussed in Chapter 2). This is probably best observed at the divisional or SBU new product program level. In Cooper's (1984 & 1985) study (previously cited in sections 3.3.1. & 2.) the 122 'active innovator'

industrial firms (32 classified in the 'electrical' sector) were compared using a set of eight new product performance criteria.

The eight variables were factor analysed (Cooper, 1984) and resulted in three main success factors -

(a) Program Impact: % of sales by new products; contribution to sales and profits.

(b) Success Rate: % of products succeeding.

(c) Relative Performance: Rating versus competitors; meeting performance objectives.

The value of this result is that it demonstrates the multi-dimensional nature of 'new product' success - a finding repeated at the project level. Consequently, support is lent to the proposition that success should be evaluated using several criteria. This also helps solve the problem of the relevance of any one single measure. By employing a battery of valid scales it is much more likely that every launch will get a 'fair deal'.

(c) Performance Measures Relevant to NPD Project Success

It is at the level of the NPD project that 'best' commercialization practice can be most validly ascertained. Two of the seminal works on NPD were Project Sappho (Rothwell, 1972) and Project NewProd I (Cooper, 1979a & b). However both studies employed rather 'slack' measures of 'success' in which the respondents were left to judge the 'degree' of new product profitability and as discussed earlier, the 'subjective' approach to

measuring performance has been rejected. But subsequently, in New Prod II Cooper & Kleinschmidt (1987b), once more using factor analysis, identified three project success measures -

(a) Financial Performance: Achieved sales and profit objectives; relative sales and profit to other launches in past 5 years.

(b) Opportunity Window: Window on new market and / or new product category.

(c) Market share: Domestic and foreign market shares after 3 years.

As with 'program' success, Cooper used a multi-dimensional measure of market performance.

Other studies have been more specific by imposing success measures at the beginning of the research. Of particular interest are Maidique & Zirger (1984) and Zirger & Maidique's (1990) studies of US electronics firms. Without specifying a time period they judged success on the basis of 'time to financial breakeven', after which products were ranked on their ability to approach / exceed market share and profit expectations. Market share has also been utilised by Yoon & Lilien (1985) who were concerned with the relationship between new product performance and marketing strategy and market characteristics. Differentiating between 'original' and 'reformulated' new products, performance was divided between short-term success (defined as first year market share greater than ten percent) and long-term success (defined as growth into a product group).

From amongst these performance measures, 'market share' is common to the three more recent studies. Further, it has been argued that this is a particularly relevant success measure for high-tech products. In a study of the effect of market penetration rates upon the value of major innovations, Gilman (1982) found that to maximise returns (ROI) to the innovator 'aggressive' marketing should be employed to facilitate penetration (and hence market share) in as short a period of time as possible. Similarly, Goldman (1982) argued that for high-tech products, life-cycles are especially short and that fast and effective market penetration is essential if firms are to reap the full cash benefits of these products before obsolescence sets in. Additionally, rapid NPD and market introduction has been identified as an important source of competitive advantage for high-tech products eg Reinertsen (1983), Takeuchi & Nonaka (1986), Lorenz (1987), Uttal (1987), Stalk (1988) and Smith & Reinertsen (1991). First identified by Reinertsen (1983), he demonstrated that coming to market nine to twelve months late can cost a new product half its potential revenues ie on a pro-rata basis every one month delay into the market costs four percent of potential revenue. These results are effectively encapsulated by Lambkin (1988) who showed that successful products are more often 'early to market', going on to achieve higher market share and greater profitability. Consequently, firms should seek to minimise their NPD and launch times followed by efforts to maximise market penetration and market share as quickly as possible.

6.3.3. Discussion Regarding the NPD Launch Performance Measures Adopted in this Research

It has been shown that from the corporate to the new product project level several mutually reinforcing measures of success are available. At the corporate level both growth and profitability are compatible performance measures - even when judged 'subjectively' by respondents. At the new product level (program and project) growth and profitability again emerge as important indicators of success, with growth the precursor to profitability via market leadership.

This leads to the conclusion that launch success should be measured in terms of market share measured within a time span that reflects the effectiveness of commercialization activities. Realistically one year is appropriate, and this was the period adopted by Yoon & Lilien (1985). Cooper & Kleinschmidt (1987b) also found market share to be a significant indicator of new product success, but with the important proviso that foreign market share is a significant factor. This consideration has been found to be particularly important for high-tech product success with several researchers emphasising the importance of overseas sales (Gutman, 1964; Davidow, 1986; Modiano & Ni-Chionna, 1986). The latter researchers finding that for successful UK, mid-sized, high-tech firms over 50% of their sales were accounted for by exports. Whilst in the first year following launch, overseas market share is difficult to correlate with launch success, speed to 'overseas introduction' (Cooper & Kleinschmidt, 1987b) reflects directly upon commercialization acumen.

Measures of profitability / cash-flow also feature in several studies. Since Maidique & Zirger (1984) investigated electronics companies it was appropriate to adopt their measure of 'breakeven'. The value of 'time to breakeven' is that it captures both profitability and the speed with which financial viability is achieved.

These findings are summarised below, and show the major types of variable that have potential for this study -

* Market share at home and abroad (ie in the 'served market')
* Speed to launch
* Relative sales level
* Time taken to break-even

Translating these measures into performance variables appropriate for research into new product **launch** success clearly depended upon the researcher's informed opinions. As such, the overriding criteria employed were that the measures should be operationally valid (eg relevant to the respondents) and conceptually sound. They are tabulated overleaf (Table 6.3.3.).

It will be seen that a one year time scale has been used where appropriate. The reasons for adopting one year are both practical and theoretical. From a pragmatic viewpoint the respondents in the pilot interviews agreed that launch practices would have little relevance after about a year, and their planning horizons seldom extended much beyond twelve months (ongoing R&D could be an exception). This time span represented a

reasonable period during which their planning abilities and resultant plans were tested in the market place. Clearly with the passage of time the picture becomes hazier, increasingly subject to the accumulation of random events - not to say the workings of 'murphy's law'! A year after launch is also a memorable occasion - achievements recorded and the first anniversary results more easily recalled.

Table 6.3.3.

The Constituent Elements of the Dependent Variable: New Product Early Commercial Success

Variable	Comment
a) Speed to overseas launch	To maximise a new product's market potential the sooner its overseas launch the greater the sales / profit potential.
b) % of sales made overseas	An indication of the product's success in the discriminating 'wider world' in which the fortunes of high-tech products are often determined.
c) UK Market share	A significant indicator of performance, and with short PLCs relevant one year from launch. Captures the firms abilities in the 'home' market.
d) Total 1st year sales (£m)	Value sales are invariably an important indicator of market acceptance.
e) Months to breakeven	A financial variable that has important implications related to cash flow and financial viability.
f) Served market size	A variable introduced to gauge the ambition of all the foregoing variables eg Attacking a 'large' market has greater implications than confining the firms attentions to 'smaller' fields.

On the academic front the literature provides no precedents for measuring launch success, and in consequence no time period for evaluation. More generally, researchers have

adopted a bewildering array of success measure time scales. For example, in Projects Sappho (Rothwell, 1972) and NewProd I (Cooper, 1979a) the time to the achievement of success was open ended, although by NewProd II (Cooper & Kleinschmidt, 1987b), two of the success variables (domestic & foreign market shares) had three year time scales. However, Yoon & Lilien (1985), implicitly studying the effect of launch activity, imposed a market share measure taken one year after launch. This provides encouragement for the adoption of a one year scale. But there are two additional reasons - albeit pulling in opposite directions. First, we have previously commented on shortening life cycles and the imperative to succeed quickly. A time scale greater than a year will in most cases be too long. If a new high-tech product is not well on the way to success after a year then it is probably doomed. However, sufficient time also needs to be allowed for marketing effort to have a measurable impact. This lagged effect has been explored by Saunders (1987) and clearly we must wait for marketing activity to feed through into the order book. Where to draw the line is a matter of judgement, but weighing the arguments suggests 'one year after launch' as an appropriate interval.

Consequently, with the practical and the theoretical congruent, we have a powerful case for 'one year'.

Finally, as a guide to the reader, the questions used to measure the dependent variable have been reproduced overleaf. All the sub-variables were scored on five point scales (in common with the rest of the questionnaire). These are shown in Appendix 6.3.3., with the cut-off points of the scales based upon the

QUESTIONS USED TO MEASURE
'NEW PRODUCT EARLY COMMERCIAL SUCCESS'

a) Following UK launch how much time elapsed before introduction to overseas markets ?

Sequence of markets	Elapsed time (months) from UK introduction	Country
1st		
2nd		
3rd etc		

b) After the 1st year following launch, what % of the products total sales were made overseas ?

	At end of 1st year
% of total sales made overseas	_____%

c) In the UK served market, RELATIVE to leading competitors, what was the products market share after the 1st year following launch ?

	End of 1st year
Much smaller (< 25 % of market leader)	| -
	| -
About the same share. Joint leader	| -
	| -
Much greater. Clear market leader (2 times or more sales)	| -

What was your estimated market share rank _____?

d) What were total product sales at the end of the first year ?

	FIRST YEAR	
	Total	Overseas
Value terms	£_____	£_____

e) How much time elapsed between the launch of the product and financial breakeven ?

_____ Months

f) How large was the served market, in value terms, into which you launched this product ? (Where the served market is a market in which potential customers will respond to any substantial marketing effort by either your firm or any competitor)

£_____m

Source: Appendix 6.6., section 1.3.2.

exploratory stages of the field research. The overall success score for each new product launch was calculated in a simple additive fashion, justified in section 6.6.1. which deals with the issues of construct validity and reliability.

The calculation and ranking of the launch success scores for each of the nominated products is set out in section 7.2.1.

6.4. DATA COLLECTION

It was decide at an early stage of the research process to gather data by means of face-to-face interviews. There were several good reasons for this approach. Mailed questionnaires, the obvious alternative, have a relatively high non-response rate. Where a large scale survey is being conducted this can be acceptable. Cost economies can be achieved and a low response rate from a big population can still yield a meaningful sample. However, the population of UK mid-sized, high-tech electronics companies is not large (see Section 6.5.) and there was a good chance that the replies to a mail survey would not have proved adequate. In contrast, the means (Section 6.7.) by which the face-to-face interviews were gained had a much higher probability of identifying the key 'players' in the NPD process. This in turn increased the chances of achieving a satisfactory acceptance rate. Previous experience had taught that approaching the most interested individuals in a company and offering to interview them whenever convenient usually elicited a favourable response.

Direct interviews also allow the interviewer to probe and ask supplementary questions. In an exploratory study like this, such an opportunity assumed particular importance. Whilst the research was designed to yield statistically meaningful results, it was also intended to gain insights into the planning process. These would not have been achievable through a postal questionnaire where inevitably the majority of questions are restricted to the 'closed-end' format.

The desirability of the face-to-face approach was also facilitated by the decision to restrict the sample size to thirty (excluding the 'piloting' stage). The reasons for this were three fold - (i) The population was not very large. (ii) A sample of 30 could be subject to both parametric and non-parametric statistical tests. (iii) Thirty interviews could be accommodated (on a part-time basis) within a realistic time-frame.

6.5. SAMPLE SELECTION WITHIN THE ELECTRONICS INDUSTRY

In this Section the criteria and process by which the sample companies were selected is explained. Additionally, as a backdrop to the research, the Section ends with a review of the major (published) changes that have recently effected the companies studied.

The industry selected for study was the UK electronics industry. The rationale underlying the choice was set out in Chapter 5, but to summarise; the industry is dynamic, its products underpin many of the advances made in other key industries

(eg automobiles and aerospace), the industry experiences a rapid rate of technological obsolescence and consequently has to engage in high-speed innovation.

A further decision was also taken to focus upon mid-sized companies. These firms have been identified as vital contributors to economic success in various countries. In (West) Germany mid-sized firms are recognised as the powerhouse behind economic resurgence and growth (and European dominance?) whilst in the USA (previously) mid-sized companies such as Apple, Compaq and Sun have been rewriting the rules in the computer industry. Within the UK, industrial circumstances are less favourable, but nevertheless there is reason to believe that mid-sized companies are capable, at least, of picking up the traces let loose by the largest UK manufacturers - over dependent upon defence procurement. Smaller companies have also been identified as the pioneers of many new technologies, often growing to international prominence. Mid-sized, high-tech firms therefore have a profile that makes them eminently suitable candidates for study as potential exemplars of innovative practice. They rest at the fulcrum of innovation and industrial change - two of the most significant issues identified as vital for corporate and national success in the '90s and beyond.

An evaluation of the UK 'quoted' electronics industry was undertaken in 1989. An analysis of the quoted companies listed in the 'Electricals' section of the FT 'London Share Service' identified 199 companies. Of these about 85 were primarily manufacturing companies and 75 British owned ('about' is used because of

definition problems eg when does an electro-mechanical product become an electronic product, or at what percentage of revenue does a distribution based business engaged in some production become a manufacturing business?). As a check, a parallel study was also undertaken using Datastream. This identified 83 electronics companies. A condition for inclusion in the sample was that any business be in both lists.

The 75 UK companies were then evaluated in terms of their annual turnover. It will be recalled (Chapter 5) that mid-sized companies were defined as those with a turnover falling between £10m and £650m (inclusive). Applying this yardstick resulted in a population of about 55 quoted, UK owned, mid-sized electrical / electronics, manufacturing companies. Finally, the electronics companies amongst this number were identified by reference to the DTIs 'high-tech' criteria set out in Appendix 5.2. Basically, this meant identifying those companies engaged in manufacturing products covered by the SIC four figure codes - 3301/2, 34441/2/3, 3453/4, 3640, 3710 and 7902 - ten product categories in all. The population of mid-sized quoted electronics manufacturing companies was found to consist of 51 businesses.

Whilst the range of product types might seem too broad, finer tuning would have severely reduced the choice of companies, with the inherent danger that the proposed sample size could not have been achieved. Fortunately, there is no evidence to suggest that 'best' NPD practices differ significantly within an industry, given controls upon 'old' and 'new' product developments (Johne & Snelson, 1990). Further, Maidique & Zirger (1984) sampled the 'US

electronics industry', whilst Cooper & Kleinschmidt (1986) have been content to make their recommendations based upon a sample of Canadian industrial manufacturers. Thus, there are good precedents for employing a sample containing mixed NPD types. A final consideration was that no company sampled should be significantly involved in supplying defence equipment. The rationale for this decision was that large UK corporations have been criticised for their over dependence upon this type of work. Further, in the wake of the Gulf war it has been confirmed that defence electronics are a technological laggard rather than a leader (despite spectacular achievements).

Working within these parameters, a final sample of 30 companies was achieved. Selection was a mixture of both random and purposive. Some companies were such obvious candidates for inclusion, by virtue of their reputation, that they were deliberately approached, although this does not imply that their reputation for NPD was necessarily good. Other companies approached were selected on a largely random basis, with the proviso that they were trading 'effectively' and within one day's travel of Brighton (the researcher's home base). These companies are identified in Appendix 6.5(a). - although, for reasons of confidentiality, the responses to the interviews are not assigned.

The sample size represented 59% of the population. As such it is reasonable to conclude that the results set out in the next Chapter are a fair reflection of the sectors NPD practices - both 'effective' and 'less satisfactory'. It will also be recalled that in

section 5.5.1. an evaluation of the levels of commercial performance of this population indicated a good spread of relative achievement.

Additionally, a longitudinal study of the sample companies, maintained after the survey, provides a useful indication of the dynamics / turbulence of the industry. It is also indicative of the trials and tribulations faced by many of the respondents. Information on these upheavals is contained in Appendix 6.5(b). But by way of illustration it should be noted that seven of the parent companies included in the sample have been taken over, one in a hostile bid. As a result of these takeovers, three companies now have overseas owners - one Swedish, one Swiss and one US. Additionally, one subsidiary interviewed was sold to a Japanese company, just prior to the parent being subject to a hostile bid. In a follow-up discussion the respondent in this company reported that he much preferred the commitment and dedication of the new owner!

However, only one company has 'gone to the wall'. Receivership was brought about by over ambitious expansion just prior to the 1990/91 recession.

6.5.1. The Controls Employed in the Research

When discussing the overall model of the NPD / launch process (section 2.5.2.) an overview of the controls used in the research was given. The purpose of this section is to provide more detail and draw the readers attention to the filter and screening

questions used when arranging the interviews and administering the questionnaire. These were applied to ensure that the firms interviewed and their product launches could reasonably be compared and contrasted.

The previous section reviewed the choice of UK, mid-sized, quoted, manufacturing companies. This ensured, at a general level, that the sampled firms were roughly equal in terms of resource availability (eg size / turnover), accountability (quoted companies) and product category. The firms were also judged by the researcher (using the financial press) to be viable and trading profitably.

More specific control measures where applied in two further steps. First, in the contact phone-call and follow-up letter (Appendix 6.7.1.) to each respondent it was requested that the nominated product(s) should represent an important innovation that had been successfully launched between one and three years previously. This ensured that the selected products had been marketed under approximately the same (favourable) economic conditions and that the dependent variable, which called for the first year's sales history, could be measured. Second, as a check on the initial request, the questionnaire (section 1.3.1.) employed a series of 'controls' that formalised and extended those of the first step. These questions are reproduced overleaf.

Key questions addressed (i) the relative proficiency with which the NPD process and launch had been accomplished, and (ii) the product attributes, measured in terms of technological & market newness. Additional questions also examined market

QUESTIONS USED FOR THE CONTROL VARIABLES

a) Excluding the final launch phase, RELATIVE to your other new product developments, how proficiently did you execute the product development process ?

|- Much worse
|-
|- About the same
|-
|- Much better

b) From the customers viewpoint at the time of launch, RELATIVE to leading competitors products, did the new product possess any unique advantages eg better design, more features, higher quality, customer cost reductions, additional product benefits etc ?

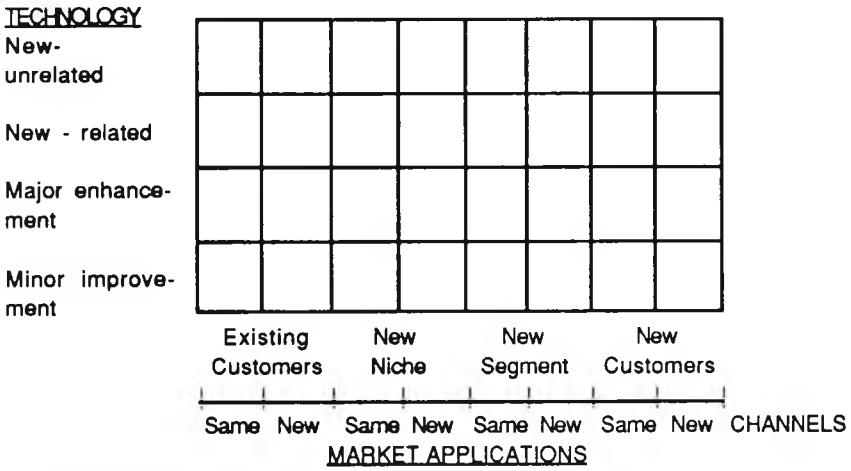
|- An inferior product
|-
|- About equivalent
|-
|- A superior product

c) About how fast was the market growing in the first year? _____% per annum in volume terms

d) Approximately how many businesses were competing in the served market at the time of launch? Include your business in the total ?

|- 5 or fewer
|-
|- 11 to 20
|-
|- 31 or more

e) Would you place a tick in the appropriate sector of the box below to indicate the technology/market combination of the designated product -



f) How would you describe your order of entry into the market ?

|- Late entrant (competitors already established)
|-
|- Early follower
|-
|- Pioneer (first to market)

g) Approximately what % of this product's sales were to customers already served by the business?

|- Less than 20 %
|-
|- Between 40 and 60 %
|-
|- More than 80 %

h) To what extent was this product handled by the same sales force and/or promoted through the same advertising and sales promotion programs as existing products ?

|- Less than 10 % of its marketing expenditures
|-
|- Between 40 and 60 %
|-
|- More than 80 %

Source: Appendix 6.6., section 1.3.1.

characteristics, order of entry and the use of existing marketing resources for the launch.

The outcome of using these control variables is evaluated in section 7.2.3. Albeit to report here that all of the NPD processes, launches and product types were comparable. Each of the respondents considered the development and launch with which they were familiar to have been accomplished satisfactorily. Additionally, all of the products fitted into the general category of major enhancement / new, related technology aimed at a new niche / new market segment.

In consequence, it is reasonable to assert that the launch performance of each of the product's surveyed was largely determined by the quality of the launch planning and the realized marketing strategy. This is not to say that other factors did not influence the outcome eg competitor reactions. But since the respondents chose relatively novel products launched under favourable conditions we can be fairly confident that events and activities beyond the reach of our controls did not significantly influence first year sales.

6.6. THE INTERVIEW SCHEDULE

The interview schedule is set out in Appendix 6.6. - the precise format refined during the piloting stage. It begins, in Section One, with a general review of SBU performance. This includes the 'Control' section (1.3.1.) designed to ensure that the nominated product meets the selection criteria. Subsequently, the

dependent variable 'new product early commercial success' (section 1.3.2.) is measured on the scales justified in Section 6.3. of this Chapter.

Sections two and three form the body of the questionnaire and contain the questions designed to test the hypotheses discussed in the previous two Chapters. Whilst the majority of the questions are closed, ample opportunity was provided for the respondents to expand upon their answers.

The scales used in Section 2 are derived from the work of Johne (1982) who studied the organisational procedures used by firms during the initiation and implementation stages of NPD. However, whilst the structure is similar the content is, in most cases, different since this research examines another aspect of the NPD process. In Section 3, dealing with the realized marketing strategy, the scales are adapted from the published PIMS questionnaires found in the work of Abell & Hammond (1979) and Buzzell & Gale (1987). Finally, Section 4 covers the respondents perceptions of the relative importance of the variables that can be employed in a launch plan. The results have been incorporated into Appendix 8.2.(b). - 'A Plan for Planning.'

The 'body' of the questionnaire consists of 85 questions (Sections 2 & 3). Whilst it can be argued that this is rather long, the reward is a greater wealth of material. However, as explained in the next section, for both theoretical and pragmatic reasons, one move towards parsimony was the adoption of 'simple' additive, five point scale items.

6.6.1 The Validity and Reliability of the Measurement Constructs

The results of our research are highly dependent upon the merits of the scales developed to measure the phenomena of study. As such, in this section the complementary issues of construct validity and reliability are addressed. We start with 'validity' because unless the constructs are valid there is not much point in worrying about their reliability.

(a) Validity

According to Oppenheim (1968) the essence of 'validity' is that a question really measures what it is supposed to measure. This is reflected in an implicit definition by Tull & Hawkins (1990) who inferred that the validity of a measure is established by the extent to which that measure is free from *systematic* error (ie bias). To this end validity can be judged in three ways - through (i) content, (ii) criterion and (iii) construct validity - and these criteria are now examined in the context of the research.

(i) Content Validity: Otherwise known as 'face validity', this approach depends upon the researcher's subjective judgement of the representativeness of the scales. However, particularly in Doctoral work, additional opinions can be sought to reinforce the intuitive or common sense view of the investigator. Not surprisingly this route was indeed followed and the scales have been judged by several commentators to be appropriate for the purposes of the study. Earlier, exploratory research also played its part in helping to ensure that the scale items were as

comprehensive as possible, subject to the inevitable considerations of respondent stamina. In a more general sense this equates with Oppenheim's (1968) advice that .... 'maximum validity is obtained by looking the individual squarely in the eye .... *and* .... establishing a good rapport ....' and this robust methodology was adopted in our research.

(ii) Criterion *(or Pragmatic)* Validity: This is primarily concerned with the pragmatic capabilities of a scale - 'Does it work', particularly in a managerial decision making context? The ability to estimate is paramount here ie can the variable be used to forecast the respondent's score on another related variable and/or can a respondent's future score on some variable be predicted?

Criterion validity can be explored in two ways and these are briefly discussed below.

Firstly, *Concurrent Validity - the extent to which one variable can be used to estimate a respondents score on another variable.* By the nature of the research, this approach was not undertaken in the conventional sense. However, it is demonstrated that a more 'sophisticated' planning process is associated with a more 'concentrated' marketing strategy. In other words, a score on the planning dimension is indicative of the likely score on the strategy dimension.

Secondly, *Predictive Validity - the extent to which a respondent's future level on some variable can be predicted by their performance on a current measurement.* This feature of

validity has been one of the main purposes of the research, and as the next Chapter demonstrates, all of the constituent measures of planning sophistication and marketing strategy concentration are positively associated with the measure of launch success. Whilst this does not prove causality, it is a step in establishing such a relationship - the foundations of which were laid during the development of the constructs (discussed below). As such we move on from asking whether a construct works to how and why it works.

(iii) Construct Validity underpins predictive validity and involves our understanding of the factors that underlie any obtained measurement. Do we have a sound theory from which deductions can be made? *Nomological validity* comes closest to what is generally meant by the 'understanding' of a construct - whereby the measurements are related to a theoretical model that leads to further deductions, interpretations and tests. Clearly, this is a key feature in experimental research and was given particular weight in the study. To this end, Chapter Five was devoted to the development of our model and the justification of each of the constructs employed. As such, all of the questions designed to explore the hypothesised relationships were directly supported by the literature from analagous research studies. Consequently our emphasis on theory / construct development is in line with the recommendations of Churchill and Peter (1984), who in a meta-analysis of the reliability of rating scales concluded that more attention should be given to both the theoretical (construct) and judgemental (content) aspects of measurement scales. Additionally, they suggest there is a trade-off between developing

valid and reliable measures, with by implication, too little attention often given to issues of validity. That said, attention now turns to the complementary issue of construct reliability.

(b) Reliability

Construct reliability is concerned with how consistent or stable the ratings generated by a scale are likely to be ie the extent to which the scaling results are free from experimental error. The more common criteria for exploring this issue are - *Test-Retest, Split-Sample, Alternative Form, Scorer Reliability and Internal-Comparison.* However, because of the practical difficulties and relevance to this research of administering the first four approaches, only the latter method has been employed (although it is a variant of the *Alternative Form* method).

The basic approach to Internal-Comparison Reliability most commonly employed is that of 'split-halves'. This compares the correlation of the score obtained from a randomly selected sample of half the items in a multi-item scale with the score from the other half. A low correlation between the two scores means that all of the items are not measuring the same characteristic. But, there is one basic problem of using this approach: different results may be obtained depending on how the items are split in half. Fortunately, this difficulty was resolved by Cronbach (1951) in a measure termed the coefficient alpha - whereby the mean of all possible split-half correlations is calculated.

Because this measure is the most commonly accepted formula for assessing the reliability of a construct (Peter, 1979) as well as one of the most important deductions from the theory of measurement error (Nunnally, 1967) it is employed here as our measure of construct reliability. Additional explanation together with the method of calculation and a summary of the results is set out in Appendix 6.6.1.

No hard and fast rules have been offered for evaluating the magnitude of the reliability coefficient (Peter, 1979), but following Nunnally's (1967) guidelines a lower threshold of 0.5 (for experimental research) was set. Consequently, with the two major constructs of 'Planning Sophistication' and 'Marketing Concentration' enjoying alpha coefficients of respectively 0.9 and 0.8 we may conclude that their reliability is high.

For the component elements of these constructs, the coefficients were generally lower, ranging from 0.8 for 'Formality' to 0.5 for 'Flexibility'. They therefore passed our reliability threshold. However, there are more important reasons for utilising these scales. Firstly, they are firmly grounded in the literature (ie they have *nomological validity*) and as Churchill & Peter (1984), have pointed out, more weight should be given by researchers to construct validity, aided and abetted by the researcher's judgement. But this leads to a trade-off with construct reliability - and this happened in our research. In addition, these researchers, in their evaluation of the impact of sampling and measure characteristics on the reliability estimates of rating scales only found two factors that had a discernible impact on reliability

estimates. Specifically, 'the greater the number of items in a scale' and 'the greater the number of scale points' the higher the level of reliability - and these factors work against a higher level of reliability for our scales. Most are relatively low in terms of scale items (ie 'Flexibility' has three) and all of the scales 'only' had five points. In combination this has probably lowered the value of the coefficient alpha - yet in terms of the research design these measurement characteristics were the appropriate choice. Taking 'scale items' first - each of the items was supported directly from the empirical literature, and because of the comparative novelty of our scales in the planning lexicon only a limited set of scale items were directly supported. Secondly, five point scales were adopted on the basis of precedence and 'user friendliness' - ie five point scales are used in PIMS research and several NPD studies (eg Johne, 1982). Additionally, the piloting of the scales demonstrated that they were more easily understood than seven point scales, as well as reducing the length of the questionnaire.

Consequently, despite the potential for a reduction in the degree of construct reliability, the decision was taken to adopt measures that enhanced validity.

Similarly, a decision was taken to combine the scales by a simple summation of the individual items. There are a number of reasons for adopting this approach, usefully set out by Calantone & di Benedetto (1988), and summarised opposite -

(a) Additive scales are much clearer in interpretation than the results of using factor analysis.

(b) Despite being a simple composite, additive scales do not suffer the (non-dependent relationship) variance losses of factor analysis.

(c) Additive scales are easier to decompose than scales obtained through factor analysis.

(d) Factor analysis may load variables together that, in a managerial context, do not actually 'load' together.

(e) The approach adopted by eg Cooper (1982) is purely data-driven and not contextually bound. Using a simple summation of terms - consistent with one another in a managerial sense - is therefore a better approach for a study which explicitly sets out to produce actionable recommendations.

Whilst justifying a simple additive scale, it will also be noted that Calantone & di Benedetto (1988) simultaneously reject the factor analytic methodology. Such an approach might have been utilised here. But, whilst a shotgun style of scale item generation may have gone some way to 'solving' the reliability 'problem', it would have meant a much larger sample. However, this approach would have flown in the face of the research objective of interrogating the respondents on a face-to-face basis. Further, the previously cited research of Churchill & Peter (1984) indicated that larger samples are negatively associated with construct reliability - possibly because there is a trade-off between response quality and attempts to generate large sample sizes.

6.7. THE CONDUCT OF THE FIELD WORK

The data was gathered by personal interview, in all cases bar-one, in the offices of the SBU. The exception was where a respondent elected to be interviewed at the home of the researcher. The interview / discussion lasted about six hours! This is recorded because it is appropriate to comment upon the generosity of the respondents, who without exception gave so freely of their time.

6.7.1. Organisation

Having identified the mid-sized electronics population, the next step was to elicit their co-operation. On the basis of prior experience the most effective way to gain an interview is to speak directly to the executive concerned. As such, initial contact was made with each of the targetted companies by phone. Where possible the name of the marketing director had already been identified through company accounts or their listing in Dun & Bradstreet's 'Key British Enterprises, 1988'. In the absence of a positive identification, the name was elicited through the telephone receptionist. In every case, the executive in question was always spoken to, although in a few cases this required a wait of several weeks or more. But, regardless of the time lapse, the response was always positive - with one notable exception, a university don!

Following a synopsis of the research methods and objectives of the study given over the phone, the prospective interview date

was confirmed by standard letter. This is set out in Appendix 6.7.1.

The average time spent with interviewees covering the schedule and discussing related issues was three hours plus, although on the one occasion necessary this was reduced to two hours. Unexpectedly, the respondent had to catch a flight to Frankfurt!

6.7.2. Timing of the Survey

The research was conducted in two phases. An exploratory phase was undertaken between January and March 1989 in which the questionnaire was piloted. Eight interviews took place. Following this phase, the working hypotheses and questionnaire were refined. In the second phase a total of 30 interviews were held between January 1990 and August 1990.

The reasons for this fairly extended time period were two-fold. First, the interviews had to be fitted into the full-time work schedule of the researcher. Second, although most of the interviews were accomplished by June, several appointments were delayed because of the unavailability of the prospective interviewees through eg overseas travel or the pressure of work. Once 30 interviews had been achieved time constraints meant that attention had to turn to data analysis.

6.8. ANALYSIS OF THE RESULTS

This Section is concerned with the means by which data was analysed. Two approaches were adopted - (i) a statistical analysis, informed by and coupled with (ii) a qualitative evaluation, based upon the respondents recorded descriptions of the planning process.

The reliability of the quantitative analysis was ascertained by the use of two statistical packages. This comment has been prompted by recent complaints in the computer press about the inaccuracies in the output from some of these packages. The two employed were StatView II (1989) and Statworks (1987). In undertaking the data analysis care was taken to cross-reference the results to ensure the reliability of the output. The statistics used were straightforward - Student's 't' test and the Mann-Whitney *U* test to evaluate the differences between the mean scores of the better and poorer launches measured on the independent variables - plus two-way ANOVA and Chi-Square to test for any association between planning sophistication, marketing concentration and launch performance.

As an aide memoire and complement to the statistical analysis, all of the interviews were recorded. Quotes from the transcripts of the ten best performing launches have been reproduced in Chapter 7 alongside the quantitative results. Additionally, a fuller picture of the planning process is set out in Appendix 8.2.(a). - "The Respondents 'View' ". This is followed in Appendix 8.2.(b). by a 'marrying' of the quantitative and qualitative

data to produce a preliminary model of best planning practice. With modifications, this is to be sent out to all of the respondents. In addition a 'mini case-study' has been included in Chapter 8 to illustrate the procedures of a highly regarded firm that performed exceptionally well, yet by its own admission had totally inadequate planning methods.

6.9. CONCLUSIONS

The Chapter began by defining the dependent variable - 'launch success'. For our purposes an objective, researcher specified, multi-attribute variable is appropriate, measured at the end of the first year after launch.

The data was gathered by personal interview, facilitating the collection of both quantitative and qualitative information. For the quantitative data it was demonstrated that the means of collection through the use of multi-item scales was both valid and reliable, with greater weight allocated to the issue of overall validity. The validity of the results was also enhanced by selecting the sampling units from a single industry, and restricting these units to a single class of organisation - UK mid-sized, quoted, manufacturing companies. However, as discussed in Chapter Five, there is no reason to believe that this selectivity will reduce the overall applicability of the results. Further, by restricting our choice of sampling units, an additional control is introduced into the experimental design.

Specific controls ensured the comparability of the nominated examples. The development processes and market launches were all considered successful by the respondents, and the products themselves involved about the same level of technological and marketing difficulty - relative to the firms capabilities and experience.

By concentrating the main fieldwork into a six month period it was also possible to ensure that the products had been launched under more or less the same favourable economic conditions.

Insofar as the collection of the data was concerned the response from key company personnel was excellent, with a negligible rejection rate. Further, respondents willingness to provide a wide range of 'sensitive' information was gratifying. Perhaps this reflects upon two issues -

(i) The realisation that effective planning is an important contributor to business success.

(ii) The perception that innovation is a cultural issue and not readily imitated.

PART FOUR

DATA ANALYSIS & EVALUATION

CHAPTER SEVEN

ANALYSIS OF THE RESEARCH FINDINGS

7.1. PURPOSE AND OVERVIEW

The main purpose of the Chapter is to evaluate, through statistical analysis, the research findings of the launch planning practices of the thirty sample companies.

The Chapter begins by explaining how the quantitative data derived from the interviews was partitioned to form the comparison groups - first into three groups of ten firms (the 'best', 'medium' and 'poorest' performers) and second into two equally sized groups (the 'better' and 'poorer' performers). This was done on the basis of the relative performance achieved by each of the nominated product launches measured on the dependent variable 'early commercial success'. The method of statistical analysis is also described.

Prior to the statistical evaluation, the launches identified as 'best' and 'poorest' are contrasted on the control variables. It is demonstrated that all the products and launches are appropriate for comparison. The SBUs are also compared on their relative record as innovators at the program level. The results show that the most innovative firms are also more successful in their product launches.

This scene setting is followed by the statistical analysis. It begins with an evaluation of the major relationships between the dependent variable and the 'aggregate' independent variables of 'planning sophistication' and 'marketing strategy concentration'. This is followed by an analysis of the statistical association

Figure 7.1(a).

The Relative Impact of Launch Planning 'Sophistication' and Marketing Strategy 'Concentration' Upon New Product Early Commercial Success

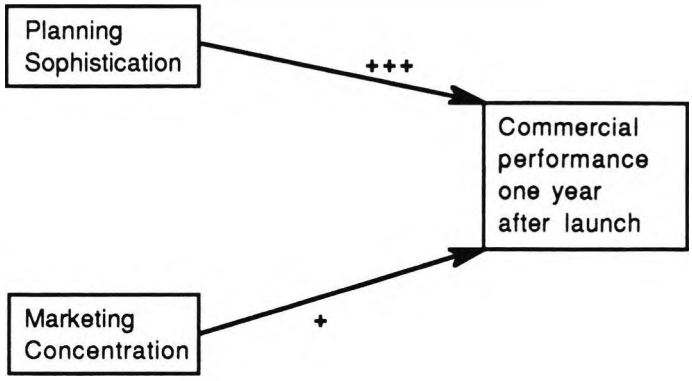
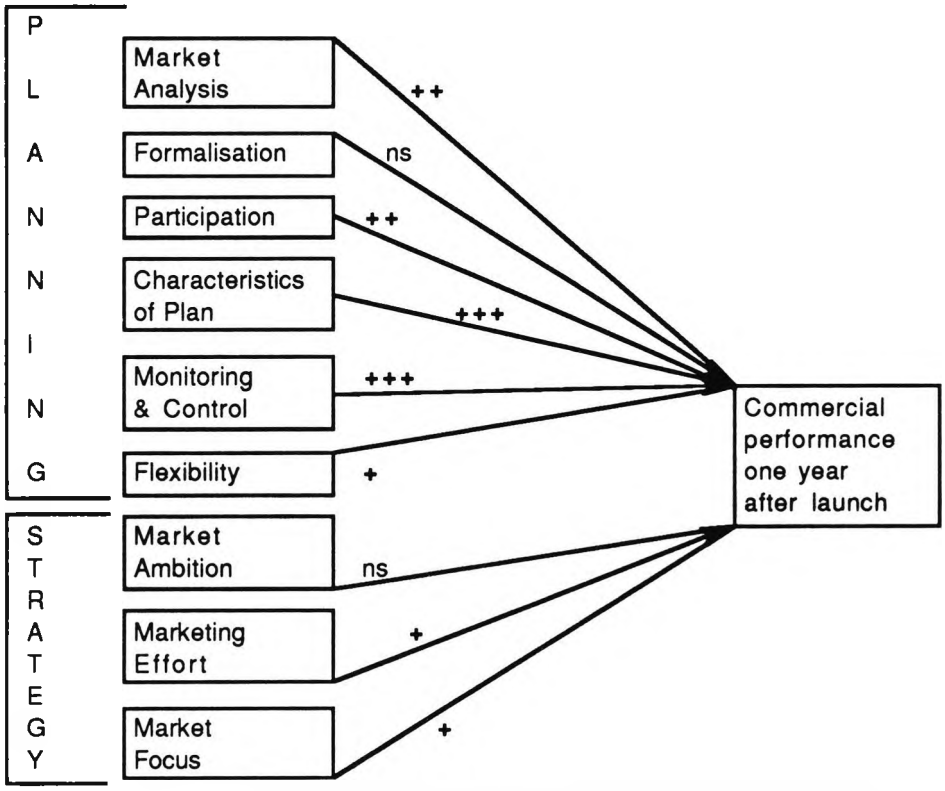


Figure 7.1(b).

The Relative Impact of the Component Elements of Launch Planning 'Sophistication' and Marketing Strategy 'Concentration' Upon New Product Early Commercial Success



Key: The number of " +'s " indicate the level of significance of the association between each of the independent variables and the dependent variable.
+++ = significance > 0.005; ++ = significance > 0.01; + = significance > 0.05.
n.s. = not significant at the 5% level. Significance calculated as the average 't' test result for each variable in comparisons between the top & bottom one-thirds of the sample and the top & bottom halves of the sample.

Sources: Tables 7.3.1a. & b.; 7.3.2a. & b.; 7.4.1a. & b. and 7.4.2a. & b.

between the disaggregated components of planning 'sophistication' and strategy 'concentration' and the dependent variable.

Finally the interaction between the two main independent variables is measured and their combined influence upon the dependent variable tested.

Throughout the evaluation both parametric and non-parametric tests are used to check that the conclusions reached have statistical validity over a range of assumptions. In addition, the main findings are complemented by quotes from the top performing companies. They have been selected to illustrate the actions undertaken during the most successful launches.

A summary of the statistical findings is displayed on the facing page. It is based upon an averaging of the main results. Figure 7.1(a). shows that planning sophistication and marketing concentration are both statistically associated with new product early commercial success, planning having much the strongest relationship. The alternate hypotheses related to these two variables are therefore supported. In Figure 7.1(b). the association of the component elements of these two variables with success are set out. In planning, the degree of formality is the only variable where the association is not statistically supported. For strategy the association of 'market ambition' is not supported, and it should be noted that overall the association of the strategy elements is weaker than for those of the planning elements.

Finally, the results of the ANOVA analysis did not prove

positive. Designed to test whether more sophisticated planning and a more concentrated marketing strategy are found in conjunction with greater launch success, no association was found. As such the null hypothesis is accepted. Planning sophistication, marketing strategy concentration and launch performance do not, within our experimental limits, co-vary.

7.2. FORMING THE COMPARISON GROUPS AND THE CHARACTERISTICS OF THE SAMPLE

The previous Chapter justified the choice of dependent variable which was used to judge and rank the nominated product launches in terms of their early commercial success. The statistical associations between the dependent variable and the independent variables was based upon these rankings - and this analysis is at the heart of the Chapter.

However, prior to a statistical evaluation some necessary 'scene setting' is required and that is the purpose of this Section. The first task is to set out how the launches were ranked. Based upon these rankings the rationale behind the formation of the comparison groups can be explained. This leads to a demonstration that all the nominated product launches met the 'control' criteria. From here it is appropriate to extend the evaluation by comparing and contrasting the companies at the SBU and NPD program level to ascertain whether there are any apparent differences between their more general innovative characteristics. It is then shown that in the broadest sense the recognition and timing of launch planning was much the same across the sample.

Finally, brief comment is made upon the heroes of this research - the respondents.

7.2.1. The Process by which the Relative Successes of the Sample Launches Were Measured and Ranked

This section serves to explain how the product launches were ranked in order of relative success. The distribution of launches from the most successful down to the least successful is shown in Table 7.2.1. overleaf (taken from the 'Complete Data Set' - Appendix 7.2.).

Every launch was measured on the six variables that combined to give the aggregate launch success measure - 'Commercial Success One Year After Launch'. Each of these variable measures was converted into a score out of five (see Appendix 6.3.3.) and these six scores added to give the final success rating. Both the absolute and scaled results are shown in the Table.

The justification for employing the chosen sub-variables and their combination in a simple linear, additive model was justified in Section 6.3. and section 6.6.1. respectively.

With all the launches scored on the aggregate measure of success, they were ranked in order from the highest to the lowest score. For example, the launch identified as 'AA' achieved the highest total success score of 29 on the dependent variable measure. As such it appears at the top of the listing - having achieved the most successful launch. The remaining launches

TABLE 7.2.1 THE CALCULATION OF THE LAUNCH SUCCESS MEASURE

	COMPONENT ELEMENTS TO THE DEPENDENT VARIABLE												OVERALL RELATIVE SUCCESS
COMPANY	Months to over	Scaled speed to	% Sales in over	Scaled % sales	Scaled	1st Year home	1st Year o'seas	Scaled total	Months to	Scaled months	1st Year total	Scaled	CALCULATED AS THE SUM OF THE
LAUNCH	-seas launch	overseas launch	-seas markets	overseas	Market share	sales £'000s	sales £'000s	1st year sales	break even	to break even	mkt size £m	market size	6 SCALED VALUES FOR EACH LAUNCH
AA	0	5	75	5	4	1000	1500	5	2	5	45.0	5	29
AB	0	5	75	5	4	1000	3000	5	3	5	15.0	3	27
AC	0	5	78	5	5	1200	4300	5	18	2	15.0	3	25
AD	0	5	80	5	5	60	540	3	10	4	10.0	3	25
A	3	4	41	3	3	10000	7000	5	10	4	150.0	5	24
B	3	4	90	5	5	28	250	2	4	5	0.6	2	23
C	3	4	38	3	5	500	300	3	10	4	20.0	4	23
D	3	4	85	5	2	90	510	3	12	3	35.0	5	22
E	0	5	80	5	3	40	160	2	20	2	62.0	5	22
F	1	5	50	3	2	300	300	3	9	4	17.0	4	21
AVERAGE	1.3	4.6	70.2	4.4	3.8	1421.8	1786.0	3.6	9.8	3.8	37.0	3.9	24
G	0	5	75	5	1	130	390	2	24	1	65.0	5	19
H	5	3	63	4	4	30	50	1	4	5	5.0	2	19
I	12	1	23	2	3	8500	2550	5	12	3	100.0	5	19
J	18	1	0	1	3	5000	0	5	12	3	30.0	5	18
K	0	5	50	3	3	60	60	1	48	1	260.0	5	18
L	0	5	15	2	2	170	30	2	18	2	2000.0	5	18
M	2	4	6	1	1	4100	265	5	12	3	8.0	3	17
N	24	1	0	1	4	300	0	2	15	3	200.0	5	16
O	9	1	60	4	3	100	150	2	18	2	20.0	4	16
P	30	1	0	1	3	1000	0	4	12	3	8.0	3	15
AVERAGE	10.0	2.7	29.2	2.4	2.7	1939.0	349.5	2.9	17.5	2.6	269.6	4.2	18
Q	4	3	50	3	5	8	8	1	24	1	0.1	1	14
R	6	2	22	2	5	35	10	1	36	1	15.0	3	14
S	12	1	0	1	1	450	0	2	12	3	80.0	5	13
T	12	1	0	1	2	1000	0	4	15	3	4.0	2	13
U	12	1	0	1	2	500	0	2	21	2	200.0	5	13
V	6	2	17	2	2	350	70	2	20	2	2.5	2	12
W	9	1	10	1	2	275	30	2	12	3	6.0	3	12
X	9	1	15	1	1	128	22	1	20	2	50.0	5	11
Y	9	1	20	2	1	80	20	1	18	2	2.5	2	9
Z	4	3	0	1	1	100	0	1	36	1	0.2	1	8
AVERAGE	8.3	1.6	13.4	1.5	2.2	292.6	16.0	1.7	21.4	2.0	36.0	2.9	12
													CALCULATED USING CONVERSION
Source: The Complete Data Set - Appendix 7.2.													SCALES IN APPENDIX 6.3.3

appear in descending order of success.

7.2.2. The Creation of the Comparison Groups and the Method of Statistical Analysis

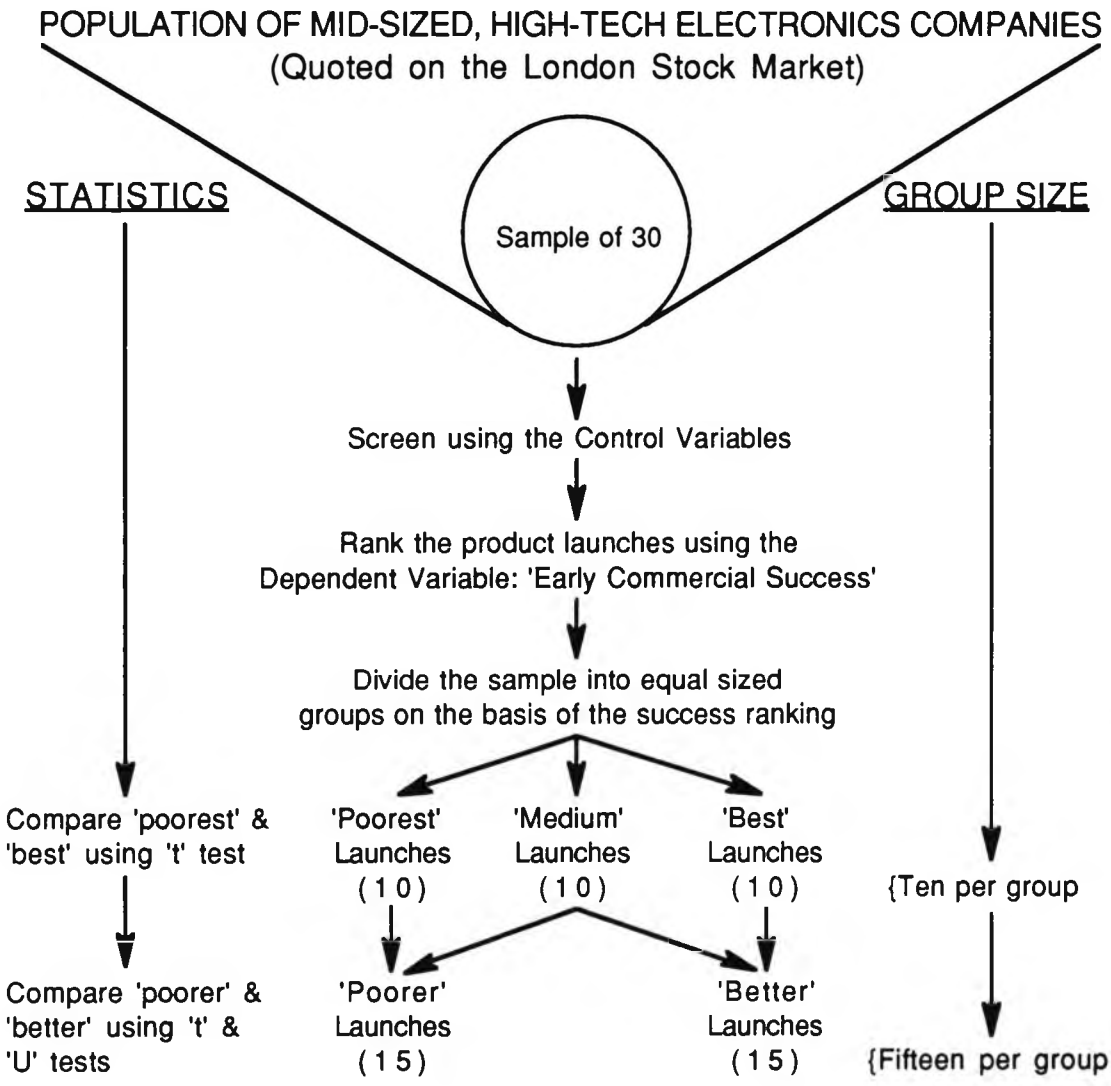
It can be seen in Table 7.2.1. that the launches are divided into three equal sized groups of ten each - the upper group comprising the best performing launches, the middle group containing the medium performing launches and the bottom group with the poorest launches. This division facilitates the highlighting of significant differences between the independent variable scores of the top and bottom performing groups - in which tests of significance are made between the best and poorest performances using the Student 't' test. The advantages of this approach are two fold. First, from a practical point of view any important differences in launch activities are emphasised - an approach typified by the case study method, in which polar opposites can serve to contrast 'best' and 'worst' practice. Second, from an analytical perspective the use of the 't' test lends statistical weight to the statements concerning the starkest variations in launch practices.

However, although this approach to analysis accentuates the differences between launch practices, it is in some senses artificial. This is because the middle one third of results is excluded, and their absence may lead to bias. Therefore, to check whether the first set of results are equally applicable across a broader range of launches, the middle ranking scores are included in a second analysis.

This two stage process is set out in Figure 7.2.2. below -

Figure 7.2.2.

The Process by which the Sample was Grouped and Analysed



In the second analysis the sample was divided into two comparison groups - the top fifteen 'better' performing launches and the bottom fifteen 'poorer' performing launches. This second analysis serves as a double check upon the results of the first analysis - as well as ensuring that all the interview results were

utilised in the statistical evaluation. Clearly it is dangerous to simply exclude one third of the sample, despite the advantages of emphasising major differences in 'best' and 'worst' practice. Additionally, our confidence in the results is enhanced with a simple division of the sample since this increases the size of the comparison groups. However, because the middle range of launch outcomes is now included we would expect the level of statistical significance to be reduced because the scores of the 'upper' and 'lower' groups are now diluted by the middle ranks. The extent to which this reduction occurs provides an indication of the degree of the difference that exists between the planning activities associated with the best and poorest performing launches tested in the first analysis. For example, if the statistical differences remain 'large' in the second analysis this can be used as evidence for an interpretation of the results that suggests firms would need to make major 'step' changes in their approach to launch planning. But, if the statistical associations are reduced by an appreciable degree the implication is that there is a more gradual change in planning practices over the range from the very best to the very poorest. As such it could be argued that planning practices may be improved incrementally to enhance launch performance. Clearly this is a subjective judgement, but none the less valuable insofar as the researcher seeks meaning in the 'cold' numerical analysis.

Finally, utilising the complete data set allows the use of the Man-Whitney U Test. The rationale for employing this mode of comparison is that in the 't' test it is judged that the population is distributed normally, that the two samples come from populations with equal variances and the interview measurements are interval

scaled (although Miller [1984] states that 'the results of the 't'-test are not seriously distorted even when marked departures from the basic assumptions are introduced'). However, in non-parametric tests all that is assumed is that the measurements are ordinal. Hence the non-parametric test can be viewed as a double-check for the conclusions reached and lessons 'drawn'.

In the following sections, the tables that are introduced utilise the division of the product launches into the three groups of 'best', 'medium' and 'poorest' product launches. But, in order to highlight major differences, comparisons are only made between the top and bottom one-third of launches.

7.2.3. The Performance of the Sample Companies on the Control Variables

To check that the sample met the control criteria, the results have been tabulated below (Table 7.2.3.).

Table 7.2.3.

CONTROL VARIABLES USED IN THE SCREENING & SELECTION OF LAUNCHES

	RESULTS Averages for the 10 Launches in Each Category		
VARIABLE	Best Launches	Medium Launches	Poorest Launches
Proficiency of NPD execution *	4.5	4.2	4.0
Degree of product uniqueness *	4.5	4.9	4.4
1st Year market growth %	26.6	26.5	35.8
Number of competitors *	4.5	4.3	4.1
Technology/market combination	2.9/3.9	2.3/4.3	2.4/4.6
Order of market entry *	4.0	3.4	3.3
Sales to existing customers *	2.9	2.1	3.1
Usual marketing resources *	4.3	3.2	4.1

* All measured on a 5 point scale. Details in Appendix 6.6., section 1.3.1.

Source: The Complete Data Set - Appendix 7.2.

The relevant screening questions are to be found in section 1.3.1. of the Questionnaire (Appendix 6.6.).

Comparing the best and poorest launches it is worth noting that the poorest launches seem to have a greater propensity for faster growing markets, but with technology that is rather less 'radical' and more often aimed at new customers. They also tend to be late-comers to the market. However, these small differences were not so great as to exclude any of the launches in the sample. On the two most important control variables, all of the firms recorded a successful development and launch, whilst the products themselves were in the mid-range of both technological newness (major enhancement / new related) and customer type (eg new niche within an existing served segment, using the same channels). Consequently, we can say that the 'launch and product type' objectives set out in Chapter 6 have been met - comparisons are made between 'successful' launches where the typical product incorporated new, but related technology and was sold to customers with which the firm was familiar.

7.2.4. The Experimental and Control Groups

Having passed the control criteria for 'successful product development and launch' it is valuable to compare the sample firms on their more general innovative characteristics. This is undertaken here and in the next section. Results from the evaluation form a useful 'backdrop' to the statistical analysis, as well as informing and complementing the discussion in Chapter 8.

Data on the sample company SBUs is summarised below in Table 7.2.4.

Where appropriate, comment is made on the data passing along the columns from left to right. To highlight distinctions, contrasts are again drawn between the top and bottom performing thirds of the sample.

Table 7.2.4.

STRATEGIC BUSINESS UNIT DATA

COMPANY	Age Years	Sales £m	Sales growth %	Overseas sales %	Employees	Mkt/sales staff	R&D staff	Mktng staff % all employees	R&D staff % of all employees
AA	26	13	17	90	160	11	15	7	9
AB	11	15	10	70	240	22	20	9	8
AC	25	35	20	60	300	35	30	12	10
AD	12	35	20	85	500	38	50	8	10
A	10	31	56	50	300	26	33	9	11
B	22	7	23	80	140	12	22	9	16
C	11	29	100	40	250	22	17	9	7
D	12	38	81	78	600	36	60	6	10
E	15	207	25	75	1000	33	30	3	3
F	7	6	28	80	70	21	14	30	20
AVERAGE	15	41	38%	71%	356	26	29	10%	10%
G	19	21	0	72	440	30	110	7	25
H	16	19	30	20	250	27	12	11	5
I	20	10	17	35	200	18	4	9	2
J	12	18	43	10	85	20	25	24	29
K	10	10	0	30	320	15	8	5	3
L	9	27	0	20	820	15	27	2	3
M	12	7	33	3	90	8	15	9	17
N	15	8	18	65	110	10	5	9	5
O	22	12	9	2	55	33	4	60	7
P	15	8	67	60	120	15	15	13	13
AVERAGE	15	14	22%	32%	249	19	23	15%	11%
Q	33	15	0	15	560	8	15	1	3
R	20	5	0	80	120	11	10	9	8
S	6	10	17	0	88	39	3	44	3
T	10	9	30	80	294	5	18	2	6
U	17	5	0	2	130	7	14	5	11
V	30	7	3	66	242	25	20	10	8
W	20	92	17	15	998	75	150	8	15
X	1	2	10	13	50	6	4	12	8
Y	16	15	0	26	250	28	20	11	8
Z	29	5	25	35	300	2	2	1	1
AVERAGE	18	16	10%	33%	303	21	26	10%	7%

Source: The Complete Data Set - Appendix 7.2.

The top performing firms are somewhat younger (15 years old v 18 years) whilst sales, sales growth and overseas sales were

substantially greater for the best performing firms (£41m, 38% and 71% versus, respectively, £16m, 10% and 33%). As a counter-point, differences in numbers of employees, marketing / sales staff and R&D personnel are not great although it is apparent that the best performing firms have a higher proportion of R&D staff to total staff (10% v 7%).

7.2.5. Comparisons Between the Sample Firms at the NPD Program Level

Although the research is concerned with NPD activities at the project level it is valuable to examine whether there are related differences between firms at the program level. The results are set out below -

Table 7.2.5.

INDICATORS OF 'INNOVATIVENESS' AT THE PROGRAM LEVEL

VARIABLE	RESULTS Averages for the 10 Launches in Each Category: Best Launches	Medium Launches	Poorest Launches
Market spread *	8.6	6.1	6.9
Importance of overseas launch †	5.0	4.4	4.1
Months to sales peak	31.9	31.8	34.7
Numbers of big projects	2.4	2.7	2.2
Numbers of small projects	9.5	6.7	18.5
Max. project expenditure £'000s	1566.7	900.0	675.0
% Sales spent on marketing	8.2	7.4	5.1
% Sales spent on R&D	8.6	7.2	7.6
% of Sales from new products	80.3	68.7	56.2
% Sales with clear tech. lead	46.4	24.5	24.8
Desired % market growth rate	19.4	25.2	13.9
% of successful new products	76.5	60.3	55.0

* The higher the score the greater the overseas market coverage.
† Using a 5 point scale: 5 = International launch a top priority; 1 = Not at all.
Details in Appendix 6.6., Section 1.2.
Source: The Complete Data Set - Appendix 7.2.

Notable differences between the firms with the best and poorest launches are highlighted in the descending order of the variables. First, the most successful firms have a wider international market coverage, placing more emphasis upon overseas launches. Second, more successful firms seem to engage in fewer small projects, but spend more per project. This provides support for Bonoma's (1985) assertion that successful businesses are more selective, but once a choice has been made are more generous with their resourcing (it could also be a function of their greater revenues - see Table 7.2.4.). Third, the 'best' firms are spending a higher proportion of revenue on both marketing and R&D than the poorer firms (8.2% v 5.1% and 8.6% v 7.6% respectively). This is of interest for two reasons -

One: The figure for R&D as a percentage of revenue confirms that all the sample firms meet the high-tech criteria ie their R&D ratio is substantially greater than the 4% threshold (Butchart, 1987).

Two: Marketing expenditure as a percentage of revenue is also well above a benchmark figure of 4.4% for the UK computer industry (Financial Times, 1/3/91d).

The sample, therefore, across these two performance measures, is relatively high spending.

Finally, the 'best' firms are achieving substantially better performance than the poorest firms in three key areas -

(i) The percentage of sales from new products launched within the past five years (80% v 56%).

(ii) Technological leadership over competitors (46% v 25%).

(iii) Success rates with new products that passed the launch threshold (77% v 55%).

These results make an interesting comparison with Cooper's (1985) findings in which respectively the 'best' and 'worst' group performances on 'percentage of sales from new products launched in the past five years' was 47% v 31%, and 'product success rates' was 72% v 67%. It is apparent that the sample in our research is consistently more innovative, having a substantially higher proportion of sales from new products. Importantly, the success rate is also somewhat higher. This supports the argument that, on average, the more experience a firm has in launching new products the more successful it becomes.

Whilst these results are not central to the research, they do provide corroboration for the proposition that firms that are generally more successful innovators also conduct more successful launches. Indeed it is quite possible that results from the NPD project level would mirror program level findings.

7.2.6. The Recognition and Timing of Launch Planning Within the NPD Process

Moving from NPD programs to the projects under investigation, this section seeks to identify when launch planning begins and the extent to which planning is formally acknowledged and enacted.

Referring to Table 7.2.6. below, it is apparent that there are, on balance, no meaningful differences between the 'best' and poorest launches.

Table 7.2.6.

RECOGNITION & TIMING OF LAUNCH PLANNING WITHIN THE NPD PROCESS

VARIABLE		RESULTS Averages for the 10 Launches in Each Category: Best Launches	Medium Launches	Poorest Launches
Explicit plan produced*		3.9	3.7	3.7
Explicit planning recognised		70% Yes	80% Yes	80% Yes
% way thru NPD	{Informal	14.5	5.5	28.5
-planning started	{Formal	67.5	51.4	60.7

* Measured on a 5 point scale: 5 = Written document; 1 = It was implicit.
Details in Appendix 6.6., section 1.3.3.
Source: The Complete Data Set - Appendix 7.2.

Starting with the upper row of the Table, the data shows that most firms produce plans somewhere in the range of 'note-form' to 'a written document', although, from the interviews, the format lies very much in the note-form. This is reflected in the acknowledgement given to a 'formal planning stage', with about three quarters of respondents providing affirmation. As for the timing of launch planning, this has been divided into an 'informal' and 'formal' stage. The evidence indicates that the 'best' group started informal planning somewhat earlier, whilst 'formal' planning was started later. Clearly this result is open to a variety of interpretations. However, an explanation (incorporating later findings) is that the sooner and more extended the planning the better (eg Nayak, 1991), but the degree of 'formality' is not such an important determinant of success. Indeed, becoming formal too soon could lock the plan into an inflexible straight-jacket.

7.2.7. The Respondents Providing the Data

Finally, in this Section, reference is made to the respondents who provided the data. They are important for several reasons. Of greatest significance is that without their cooperation the research would not have been possible. But, additionally, it is necessary to establish that by virtue of their seniority and involvement with the launch the interviewees were in a position to comment authoritatively upon the launches under investigation.

In all SBU cases the respondents were senior and experienced personnel directly involved in the cited NPD launch planning and implementation stages. Acknowledgements to sample companies are made in Appendix 6.5(a). Twenty three percent were directors of their SBU - and invariably on the main board. The remainder were marketing / sales managers or project managers (although exact titles varied), directly answerable to a director. Planning was always a marketing responsibility, with one 'high flier' exception where it was undertaken by R&D.

As such it is reasonable to conclude that the information provided is as close to the 'truth' as fieldwork can provide on a 'single source' basis.

7.3. FINDINGS REGARDING THE RELATIONSHIP BETWEEN LAUNCH PLANNING, MARKETING STRATEGY AND EARLY COMMERCIAL SUCCESS

This Section is in two parts. The first part examines the overall relationship between the extent of 'sophistication' in the planning process and new product launch success, whilst the second part looks at the overall relationship between the degree of marketing strategy concentration and new product launch success.

7.3.1. The Impact of Launch Planning Sophistication Upon New Product Commercial Success

In the ensuing discussion it should be borne in mind that 'launch planning sophistication' is a composite variable constructed in a simple additive fashion from six major independent sub-variables. The rationale for each of these variables (and supporting hypotheses) was justified in Chapter 4. Further details of these variables and their scoring are to be found in the interview schedule (Appendix 6.6.) and the interview results (Appendix 7.2.).

The analysis is conducted in three stages. Firstly, the performance of the top one-third of the sample is compared with the performance of the bottom one-third - where the dependent variable is 'commercial success' one year after launch and the independent variable is planning sophistication. Secondly, the comparison is repeated, but this time a comparison is made between the top and bottom halves of the sample. As explained in

section 7.2.2. one of the reason for doing this is to examine whether the findings regarding the best and poorest performing launches is also true when middle ranking launches are incorporated into the evaluation.

In both of these cases the parametric 't' test is employed for independent samples. **Since the direction of the difference between the two means is predicted in the hypotheses the test used is one-tailed.**

In addition, the third step undertaken is to utilise the non-parametric Mann-Whitney *U* Test, again as a one-tailed test.

To inform the evaluation of the results, the analysis begins with a restatement of the primary hypothesis developed in Chapter 4.

> **Null Hypothesis (Ho):** The degree of sophistication in new product launch planning has no impact upon the early commercial success of a new product launch.
>
> **Alternate Hypothesis (Ha):** The more sophisticated the launch planning undertaken for a new product the greater the early commercial success of that product.

Based upon the data set out in Appendix 7.3. (Key Results) the comparison of the 'high performing' top one-third and bottom one-third 'low performing' launches resulted in Table 7.3.1(a). shown overleaf. 'Top 33% Plng' refers to the aggregate data on 'planning sophistication' from the top-one third performing launches, whilst 'Btm 33% Plng' refers to the aggregate data on

'planning sophistication' from the bottom one-third performing launches.

Table 7.3.1(a).

The Planning Sophistication Variable: Comparing the Top & Bottom One Third Performing New Product Launches
(Using Student's *t* Test)

Data File: KEY RESULTS

Independent Samples...

Variable:	TOP 33% PLNG	BTM 33% PLNG
Mean:	3.65	2.79
Std. Deviation:	0.41	0.39
Observations:	10	10

t-statistic:	4.86	Hypothesis:
Degrees of Freedom:	18	Ho: $\mu 1 = \mu 2$
Significance:	0.000	Ha: $\mu 1 \neq \mu 2$

"Our planning's pretty good. As the company's grown .... it's become necessary. We need to make sure we approach the market, our customers in the right way. .... Yes .... I suppose you could say we're fairly 'sophisticated'."

Following this quote from a high performing firm, the statistical interpretation is very supportive. For 18 degrees of freedom (df) and a 0.05 level of significance the critical value of 't' is 1.734. Since the observed value of 't' (4.86) is greater than this the null hypothesis is rejected and the alternate hypothesis is accepted. Indeed, for a one-tailed test the result is significant at the 0.0005 level. In consequence we may conclude that the 'more sophisticated the product launch planning' the better the commercial performance of product launches.

Comparing the top and bottom halves of the sample leads to a similar result -

Table 7.3.1(b).

The Planning Sophistication
Variable: Comparing the Top & Bottom
Performing Halves of the Sample New Product Launches
(Using Student's *t* Test)

Data File: KEY RESULTS

Independent Samples...

Variable:	TOP 50% PLN	BTM 50% PLN
Mean:	3.44	2.92
Std. Deviation:	0.45	0.39
Observations:	15	15

t-statistic:	3.39	Hypothesis:
Degrees of Freedom:	28	Ho: $\mu 1 = \mu 2$
Significance:	0.002	Ha: $\mu 1 \neq \mu 2$

With 28 degrees of freedom (df) and a 0.05 level of significance the calculated value of 't' is 1.701. Since the observed value of 't' (3.39) is greater than this, the null hypothesis is rejected and the alternate hypothesis is accepted. As a one-tailed test the level of significance is in fact 0.005.

Consequently we can say that planning sophistication is a highly significant discriminator between 'more' and 'less' successful launches - and not just the 'most' and 'least' successful launches.

Finally, this result is evaluated using the non-parametric Mann-Whitney *U* test.

Table 7.3.1(c).

The Planning Sophistication Variable: Comparing the Top & Bottom Performing Halves of the Sample New Product Launches

Mann-Whitney U X $_1$: GROUP CAT Y $_1$: AV PLNG SOPH

	Number:	Σ Rank:	Mean Rank:
Group 1	15	309	20.6
Group 2	15	156	10.4

U	36	
U-prime	189	
Z	-3.17	p = .0015
Z corrected for ties	-3.17	p = .0015
# tied groups	1	

Note that the table shows a value of 'p' for a two tailed test, but since the 'direction' of the relationship is hypothesised the 'p' value is divided by two.

Because the observed value of *U* (36) is less than the critical value of *U* (72) the result is significant at the 0.05 level. Further, it is significant at the 0.001 level where the critical value of *U* is 40.

From these results the clear inference is that the alternate hypothesis is strongly supported. The more sophisticated the planning undertaken for the market launch of a new product the more successful the commercial outcome of that launch after a period of one year. In addition, it is also apparent that the extent of the difference is not only highly significant between the best

and worst performing launches. When the middle ranking firms are included in a top-half v bottom-half sample comparison of the better and poorer performing launches the results are still very significant. Consequently it appears that efforts by poorly performing firms to improve their launch planning activities could well be rewarded by greater new product launch success ie an incremental change may well be beneficial - a step change is not required to boost performance.

7.3.2. The Impact of Marketing Concentration Upon New Product Commercial Success

As with 'planning sophistication', 'marketing concentration' is a composite variable constructed by the addition of three major sub-variables justified in Chapter 5. Details are shown in Appendices 6.6. & 7.2. The analysis follows the same pattern as the previous section and once again the null and alternate hypotheses are restated.

> **Null Hypothesis (Ho):** The extent of the marketing concentration of the realized launch strategy for a new product has no impact upon the early commercial success of that product.
>
> **Alternate Hypothesis (Ha):** The greater the marketing concentration of the realized launch strategy for a new product the greater the early commercial success of that product.

The results for the top and bottom one-third performing launches are set out overleaf.

Table 7.3.2(a).

The Marketing Concentration Variable: Comparing the Top & Bottom One Third Performing New Product Launches
(Using Student's *t* Test)

Data File: KEY RESULTS
Independent Samples...

Variable:	TOP 33% MKT	BTM 33% MKT
Mean:	3.27	2.71
Std. Deviation:	0.59	0.41
Observations:	10	10

t-statistic:	2.49	Hypothesis:
Degrees of Freedom:	18	Ho: $\mu 1 = \mu 2$
Significance:	0.023	Ha: $\mu 1 \neq \mu 2$

"How do we go about our marketing? It's a process of bringing our resources to bear on the main pressure points in the market. We find this the most efficient way .... but it's not hard sell".

With 18 'df' the calculated value of 't' is 1.734 at the one tailed 0.05 level of significance. As such the null hypothesis is rejected. Further, this result is significant at the 0.025 level of significance (critical value of 2.101). The impact of marketing concentration upon new product launch success is significant. However, it should be noted that this result has a lower level of significance than that found for 'planning sophistication'. This is contrary to the findings of earlier literature (eg Robinson & Pearce, 1988), and suggests that the sophistication of launch planning may be more 'important' than the degree of marketing concentration to the first year commercial success of a new product (within an industry).

Moving on to the comparison of the top and bottom halves of the complete sample yields the following result -

Table 7.3.2(b).

The Marketing Concentration Variable: Comparing the Top & Bottom Performing Halves of the Sample New Product Launches
(Using Student's *t* Test)

Data File: KEY RESULTS
Independent Samples...

Variable:	TOP 50% MKT	BTM 50% MKT
Mean:	3.18	2.81
Std. Deviation:	0.52	0.37
Observations:	15	15

t-statistic:	2.27	Hypothesis:
Degrees of Freedom:	28	Ho: $\mu 1 = \mu 2$
Significance:	0.031	Ha: $\mu 1 \neq \mu 2$

With an observed value of 't' of 2.27 and a calculated value of 1.701 (28 df) the null hypothesis is again rejected at the 5% level of significance. Indeed the result is significant at the 0.025 level where the calculated value of 't' is 2.048. The alternate hypothesis is accepted. It can be concluded that the greater the extent of marketing concentration for the launch of a new product the greater the chances of the market success of that product.

As a final check the results of the Mann-Whitney *U* test are set out overleaf.

Table 7.3.2(c).

The Marketing Concentration Variable: Comparing the Top & Bottom Performing Halves of the Sample New Product Launches

Mann-Whitney U X $_1$: GROUP CAT Y $_1$: AV MKT CONC

	Number:	Σ Rank:	Mean Rank:
Group 1	15	297	19.8
Group 2	15	168	11.2

U	48	
U-prime	177	
Z	-2.68	p = .0075
Z corrected for ties	-2.68	p = .0075
# tied groups	2	

As the observed value of *U* (48) is less than the critical value of *U* (72) the result is significant at the 0.05 level. It is also significant at the 0.005 level where the critical value of *U* is 56 (for a one-tailed test).

As with the planning variable, the marketing variable has been found to have a significant association with the early commercial performance of new product launches. This is true whether comparing the very best performing launches with the poorest (ie top and bottom thirds) or whether simply comparing the better launches with the poorer (ie the top and bottom halves). In all the statistical tests performed it should also be noted that the association of the planning variable with early commercial success was stronger (ie of greater significance) than that of marketing strategy. The implications of this finding will be explored in the final Chapter when the results set out in the next two Sections can be brought to bear upon the 'Discussion and Main Conclusions'.

7.4. FINDINGS REGARDING THE MAIN COMPONENT ELEMENTS OF THE INDEPENDENT PLANNING AND STRATEGY VARIABLES AND THEIR ASSOCIATION WITH EARLY COMMERCIAL SUCCESS

In this Section a comprehensive review is undertaken of the research results related to the impact upon launch performance of the component variables constituting the launch planning process and realized marketing strategy. In every case the analysis is conducted by making comparisons between the top and bottom one-third performing new product launches. This is followed by a comparison between the top and bottom halves of the sample. Parametric 't' tests are utilised for this purpose. Subsequently, conditions are 'relaxed' so that the non-parametric Mann-Whitney *U* Test can be employed for comparing the launch performance of the top and bottom halves of the sample launches.

Because of the number of variables compared in this Section the results are shown below in four summary tables - two in section 7.4.1. dealing with launch planning and two in section 7.4.2. dealing with marketing strategy.

7.4.1. The Relationships Between Each of the Launch Planning Elements and New Product Commercial Success

To begin the analysis, each of the null and alternate tertiary hypotheses are restated for the suspected relationships between the launch planning variables and new product commercial success.

RESTATEMENT OF THE LAUNCH PLANNING TERTIARY HYPOTHESES

Ho(a): The extent of the **market analysis** undertaken for the purposes of planning the launch a new product has no impact upon the early commercial success of that product.

Ha(a): The more extensive the market analysis undertaken for the purposes of planning the launch of a new product the greater the early commercial success of that product.

Ho(b): The degree of **formality** in the new product launch planning process has no effect upon the early commercial success of a new product.

Ha(b): The more formal the new product launch planning process the greater the early commercial success of that product.

Ho(c): The extent of the **participation** in the new product launch planning process has no effect upon the early commercial success of a new product.

Ha(c): The more extensive the participation in the new product launch planning process the greater the early commercial success of that product.

Ho(d): The new product launch **plan characteristics** have no impact upon the early commercial success of that product.

Ha(d): The 'tighter' the characteristics of the plans for launching a new product the greater the early commercial success of that product.

Ho(e): The extent of the **monitoring and control** undertaken during the launch planning process for a new product will have no effect upon the early commercial success of that product.

Ha(e): The greater the monitoring and control undertaken during the launch planning process for a new product the greater the early commercial success of that product.

Ho(f): The extent of the **flexibility** adopted when implementing the launch plans for a new product will have no effect upon the early commercial success of that product.

Ha(f): The greater the flexibility adopted when implementing the launch plans for a new product the greater the early commercial success of that product.

Shown opposite is a summary table of the associations between the launch planning variables and the top and bottom one-third performing new product launches.

Table 7.4.1(a).

SUMMARY OF THE STATISTICAL RELATIONSHIPS BETWEEN THE LAUNCH PLANNING VARIABLES & NEW PRODUCT EARLY COMMERCIAL SUCCESS WHEN COMPARING THE TOP & BOTTOM ONE THIRD LAUNCHES

VARIABLES	DF	GROUP MEANS* 1	2	UNPAIRED 't' VALUE	PROBAB. (1 - tail)	SIGNIF. at 5% LEVEL?
a) MARKET ANALYSIS	18	3.30	2.21	3.96	0.0004	YES
b) FORMALITY	18	3.81	3.20	1.54	0.0705	NO
c) PARTICIPATION	18	3.53	2.49	4.22	0.0002	YES
d) PLN. CHARACTERISTICS	18	4.00	3.14	4.40	0.0002	YES
e) MONIT. & CONTROL	18	3.79	2.91	3.17	0.0026	YES
f) FLEXIBILITY	18	3.46	2.77	2.09	0.0258	YES

* GROUP MEAN '1' = 'HIGH' PERFORMING & GROUP MEAN '2' = 'POOR' PERFORMING.

Source: Appendix 7.3.

From the table above it is clear that only the 'Degree of Formality' in launch planning is **not** significantly associated with the success of new product launches. All of the other variables are highly significant - especially 'Market Analysis', 'Participation' and 'Plan Characteristics'.

From these findings it can be concluded that the null hypotheses are rejected in every case except that of 'formality'. The alternate hypotheses are accepted (with one exception) and the greater the extent of -

* 'Market Analysis':

"*We* use our MIS a great deal to evaluate what the opposition have. We do a lot of market research before we actually release the product .... and even before we develop the product".

* 'Participation':

"Planning. It's a collaborative effort between top management and the project team. I think this is a result of the top management actually being quite close to the people who actually do it. We're not a big company. We don't have layers of management".

* Plan 'tightness':

"Our objectives are quantitative - sales related - selling of so many machines rather than profitability. To get an installed base. We have an overall objective to be a world leader".

* 'Monitoring & Control':

"It's monitored very carefully. The sales figures are evaluated every month. You'd look at the initial response. You'd be in touch with the distributors asking how it's going. The salesmen would be out there checking".

and

* 'Flexibility':

"Our approach is very flexible to meet market requirements and demand. If you tie yourself down too heavily to procedures that you must follow then you can be led down the path that perhaps you didn't want to go - and be blinkered by a change in your market that you might miss. Without having the flexibility with your own people and not just relying on the marketing department".

- the more successful a new product launch. However, the extent of 'Formality' in the new product planning process does not have a significant association with success at the 5 % level although significant at 8%. Consequently, it can be said that there appears to be a threshold for 'Formality' - and a certain degree of 'Formality' in launch planning has a contributory role to play in the performance of a new product. A senior manager reflects the ambiguity -

"I think the degree of mechanisation .... is a personal thing. And you are talking to one of the people *(the marketing director)* in this organisation who is very much in favour of it. But I must say there are one or two of my colleagues who say I go a bit over the top .... and they say - "Everything is like a military operation to you" - and I say that's the only way to fight the battle. There are people who say there's no room for flair and intuition .... and I say yes, But! ... . So the picture I'm putting to you is not totally accepted. There are some of my colleagues .... who do it in a less formalized way. It's part of the people mix that makes for a successful company".

As a means of substantiating these results Table 7.4.1(b). below compares the performance of the top and bottom halves of the sample using both the 't' and *'U'* tests.

Table 7.4.1(b).

SUMMARY OF THE STATISTICAL RELATIONSHIPS BETWEEN THE LAUNCH PLANNING VARIABLES AND NEW PRODUCT EARLY COMMERCIAL SUCCESS WHEN COMPARING THE TOP AND BOTTOM HALVES OF THE SAMPLE

	VARIABLES					
STATS TESTS 't' TEST	MKT. ANALYSIS	FORMALITY	PARTIC-IPATION	PLAN CHARAC.	MONIT. & CONTROL	FLEXIBILITY
DF	28	28	28	28	28	28
Group 1 Means* 2	2.99 2.34	3.50 3.25	3.30 2.75	3.80 3.15	3.81 3.10	3.42 2.93
Unpaired 't' value	2.39	0.76	2.27	3.05	3.54	1.89
Probability (1-tail)	0.0118	0.2269	0.0155	0.0025	0.0007	0.0347
Significant at 5% level?	YES	(NO)	YES	YES	YES	YES
'U' TEST	MKT. ANALYSIS	FORMALITY	PARTIC-IPATION	PLAN CHARAC.	MONIT. & CONTROL	FLEXIBILITY
'U'	66.0	89.5	55.5	49.5	30.0	70.5
Z corrected for ties	-1.93	-0.96	-2.37	-2.63	-3.43	-1.76
Probability (1-tail)	0.0268	0.1695	0.0089	0.0043	0.0003	0.0391
Significant at 5% level?	YES	(NO)	YES	YES	YES	YES

* GROUP MEAN '1' = 'BETTER' PERFORMING & GROUP MEAN '2' = 'POORER' PERFORMING.
Source: Appendix 7.3.

The results validate those reached earlier in this section. In the 't' tests for the top and bottom halves of 'new product

commercial success' the level of significance is lower in all cases (bar 'Monitoring & Control'), but since a wider range of companies is included in the second analysis this result is only to be expected. 'Formality' is again found not to be significant.

Additional support is provided by the Mann-Whitney *U* tests. Once again all results are significant at the 5% level, with the exception of the 'Formality' variable.

However, all of these 'formality' outcomes have been influenced by the inclusion amongst the highest performing results of the product launch undertaken by company 'AB'. This company achieved the second best launch result, although 'planning sophistication' rated fourth from bottom and 'marketing concentration' rated second from bottom. Consequently, it is relevant to re-run the statistical analysis with this launch excluded. The re-evaluation is set out in Appendix 7.4.1. It is evident that the 'formality' variable now becomes significant at the 5% level, although it remains less significant than all the other variables. Whilst this result is not directly relevant to the findings of this Section (sampling units cannot be excluded for the purpose of demonstrating a particular relationship) it does illustrate how 'finely balanced' the significance of 'formality' is. It also shows just how susceptible small samples are to 'extreme' values. Company 'AB' is also the subject of a 'mini case-study' in section 8.2.4. of the next Chapter.

Overall these results (top & bottom 1/3rds and top & bottom halves) therefore provide strong support for the proposition that

the key elements of planning sophistication - 'Market Analysis', 'Participation', 'Plan Characteristics', 'Monitoring & Control' and 'Flexibility' - are all strongly associated with the launch success of a new product. However, the role of 'Formality' in the planning process appears to be less important.

7.4.2. The Relationships Between Each of the Marketing Strategy Elements and New Product Commercial Success

The analysis begins with a restatement of each of the null and alternate supporting hypotheses setting out the anticipated relationships between the marketing strategy variables and new product commercial success -

RESTATEMENT OF THE MARKETING STRATEGY TERTIARY HYPOTHESES

Ho(g): The extent of the **market ambition** pursued for a new product has no impact upon the early commercial success of that product.

Ha(g): The more extensive the market ambition pursued for a new product the greater the early commercial success of that product.

Ho(h): The degree of **marketing effort** made for the launch of a new product has no impact upon the early commercial success of that product.

Ha(h): The higher the marketing effort made for the launch of a new product the greater the early commercial success of that product.

Ho(i): The degree of **market focus** undertaken for the launch of a new product has no impact upon the early commercial success of that product.

Ha(i): The greater the market focus undertaken for the launch of a new product the greater the early commercial success of that product.

Shown overleaf is a summary table of the associations between the marketing strategy variables and the top and bottom one-third performing new product launches. It can be seen that the null hypotheses are rejected in the case of 'Market Ambition' and

'Marketing Effort'. The alternate hypotheses are accepted and it may be concluded that the greater the -

* 'Market Ambition':

"A plank of our policy is that we must sell the product on a world wide basis. It's part of our success and survival that we address the broadest possible markets. .... Our objective is a minimum 25% growth per annum. We grow in three ways -
* through innovation - beating the competition technologically and taking sales from them,
* geographically, by moving into new markets, and
* growing with the market.
And we exploit everyone".

and

* 'Marketing Effort':

"I'm not saying we overall, outspend the competition. But we do put extra resources into the areas we consider to be the most important".

- adopted for the launch of a new product the more likely the success of that product.

Table 7.4.2(a).

SUMMARY OF THE STATISTICAL RELATIONSHIPS BETWEEN THE MARKETING STRATEGY VARIABLES & NEW PRODUCT EARLY COMMERCIAL SUCCESS WHEN COMPARING THE TOP & BOTTOM ONE THIRD OF LAUNCHES

VARIABLES	DF	GROUP MEANS* 1	GROUP MEANS* 2	UNPAIRED 't' VALUE	PROBAB. (1-tail)	SIGNIF. at 5% LEVEL?
g) MKT. AMBIT.	18	3.2	2.56	1.94	0.0343	YES
h) MKTNG EFFORT	18	2.95	2.49	2.40	0.0138	YES
i) MKT. FOCUS	18	3.67	3.08	1.64	0.0596	**NO**

* GROUP MEAN '1' = 'HIGH' PERFORMING & GROUP MEAN '2' = 'POOR' PERFORMING.

Source: Appendix 7.3.

However, the null hypothesis is accepted for the variable 'Market Focus'. From the sample comparison it is apparent that the degree of market focus or 'nichemanship' is not a significant

discriminator between the most and least successful new product launches at the 5% level - although significant at 6%. Whilst this result may seem surprising it is indicative that many of the sample companies were held in the sway of the current vogue for competing in market niches. Niches may be important, but the research findings suggest that relatively high market ambition and marketing effort are more important. However a number of respondents in the best performing companies did extol the virtues of segmentation -

> "We're niche market. There are few companies as dedicated to this area of business. Most of our competitors do lots of other things. In our niche markets we probably spend more than our competitors. I'd say much more. We put more people in the field and put pressure on tiny points than anybody else in the world".

Indeed, in the analysis that follows, 'Market Focus' is found to be significant. This result comes about when comparing the performance of the top and bottom halves of the sample using both the 't' and *'U'* tests. The results are set out overleaf in Table 7.4.2(b).

In this analysis it is apparent that 'Marketing Effort' and 'Market Focus' are both significant at the 5% level. Consequently the null hypotheses are rejected for these two variables, although accepted for 'Market Ambition'. As such, only 'Marketing Effort' has been found significant when comparing both the best / poorest (top and bottom thirds) and better / poorer (top and bottom halves) of the launch performances.

Table 7.4.2(b).

SUMMARY OF THE STATISTICAL RELATIONSHIPS BETWEEN THE MARKETING STRATEGY VARIABLES & NEW PRODUCT EARLY COMMERCIAL SUCCESS WHEN COMPARING THE TOP & BOTTOM HALVES OF THE SAMPLE

	VARIABLES		
STATS TESTS	MKT. AMBIT.	MKTNG. EFFORT	MKT. FOCUS
't' TEST			
DF	28	28	28
Group Means* 1	3.03	2.86	3.69
Means* 2	2.73	2.56	3.09
Unpaired 't' value	1.11	2.05	2.30
Probability (1-tail)	0.1383	0.0252	0.0146
Signif. at 5% level?	(NO)	YES	YES
'U' TEST			
'U'	95.0	59.5	54.5
Z corrected for ties	-0.73	-2.20	-2.41
Probability (1-tail)	0.2327	0.0140	0.0080
Signif. at 5% level?	(NO)	YES	YES

* GROUP MEAN '1' = 'BETTER' PERFORMING & GROUP MEAN '2' = 'POORER' PERFORMING.
Source: Appendix 7.3.

It is therefore reasonable to conclude that firms wishing to improve their marketing launch strategies should first concentrate on 'Marketing Effort'. The best start could be an audit of the firm's launch effort relative to competitors, paying attention to such factors as - early promotional support, marketing expenditure / training for the sales force, advertising, service levels and

delivery times, repairs, technical literature and relative customer value (ie relative product quality ÷ relative price).

7.5. INVESTIGATION OF THE POSSIBLE INTERACTION BETWEEN THE LAUNCH PLANNING PROCESS AND REALIZED MARKETING STRATEGY AND THEIR COMBINED EFFECT UPON EARLY COMMERCIAL SUCCESS

In the Chapter so far, the separate impacts of launch planning and the realized marketing strategy upon new product early commercial success have been evaluated. But, as discussed in Chapters 3 & 4 it is reasonable to hypothesise that the best commercial performances will result when certain planning features are combined with certain marketing strategies. The nature of the hypothesised relationship is restated below prior to the analysis of the results.

> **Ho:** A new product's early commercial success is unaffected by the interaction of more sophisticated launch planning and a more concentrated marketing launch strategy.
>
> **Ha:** The interaction of more sophisticated launch planning and a more concentrated marketing launch strategy for a new product results in superior early commercial success.

The relationship between the two variables of 'sophisticated launch planning' and 'marketing strategy concentration' and their combined impact upon launch performance is tested in two stages. Firstly a two-way ANOVA with interaction is undertaken to ascertain whether a relationship exists between the two independent variables and what their combined impact is (if any) upon launch performance. This is followed by the more 'relaxed'

conditions of the non-parametric chi-square test. Its purpose here is to evaluate whether or not more 'sophisticated launch planning' and more 'concentrated marketing launch strategy' are statistically related. For the purposes of analysis both the variables 'planning sophistication' and 'marketing concentration' have been sub-divided into three levels, reflecting the degree of 'sophistication' and 'concentration'. These were -

Figure 7.5.

The Division of the Two Main Independent Variables into Three Category Levels - from 'Less' to 'More'

PLANNING SOPHISTICATION: Less — **Simple** **Average** **Complex** → More

MARKETING CONCENTRATION: Less — **Low** **Medium** **High** → More

The classification of all of the product launches along these two dimensions is shown in Table 7.5(a). opposite (which also shows the simplified classification system adopted for the Chi-Square test set out on pages 310-12).

For the ANOVA analysis each category of planning and marketing consists of an equal number of launches ie ten. Allocation to a category was based upon the relative scores achieved by a product launch on the variables 'planning sophistication' and 'marketing concentration' eg product launch 'AA' was classified as 'planning sophistication equals complex' and 'marketing concentration equals high' since both scores were in the

upper one third. At the other end of the spectrum launch 'Z' was categorised as 'low' for both planning and marketing because its scores on both these variables were in the bottom one third.

Table 7.5(a).

Classification of the Planning Sophistication & Marketing Concentration Scores for the ANOVA & Chi-Square Analyses

COMPANY LAUNCH	PLANNING SOPHISTICATION AVERAGE SCORE*	PLANNING SOPHISTICATION CLASSIFICATION for - ANOVA ANALYSIS	PLANNING SOPHISTICATION CLASSIFICATION for - CHI-SQUARE ANALYSIS	MARKETING CONCENTRATION AVERAGE SCORE*	MARKETING CONCENTRATION CLASSIFICATION for - ANOVA ANALYSIS	MARKETING CONCENTRATION CLASSIFICATION for - CHI-SQUARE ANALYSIS
AA	3.88	COMPLEX	COMPLEX	3.26	HIGH	HIGH
AB	2.64	SIMPLE	SIMPLE	2.00	LOW	LOW
AC	3.84	COMPLEX	COMPLEX	3.71	HIGH	HIGH
AD	3.30	AVERAGE	COMPLEX	3.85	HIGH	HIGH
A	3.85	COMPLEX	COMPLEX	3.13	MEDIUM	HIGH
B	3.65	COMPLEX	COMPLEX	4.13	HIGH	HIGH
C	3.98	COMPLEX	COMPLEX	3.42	HIGH	HIGH
D	3.96	COMPLEX	COMPLEX	3.25	HIGH	HIGH
E	3.68	COMPLEX	COMPLEX	3.02	MEDIUM	HIGH
F	3.75	COMPLEX	COMPLEX	2.96	MEDIUM	LOW
G	2.54	SIMPLE	SIMPLE	2.48	LOW	LOW
H	3.13	AVERAGE	SIMPLE	3.19	MEDIUM	HIGH
I	3.14	AVERAGE	COMPLEX	3.20	HIGH	HIGH
J	3.23	AVERAGE	COMPLEX	3.30	HIGH	HIGH
K	3.37	COMPLEX	COMPLEX	2.80	LOW	LOW
L	3.53	COMPLEX	COMPLEX	2.98	MEDIUM	LOW
M	3.31	AVERAGE	COMPLEX	2.87	MEDIUM	LOW
N	3.00	SIMPLE	SIMPLE	3.27	HIGH	HIGH
O	3.09	AVERAGE	SIMPLE	3.02	MEDIUM	HIGH
P	3.08	AVERAGE	SIMPLE	2.85	LOW	LOW
Q	2.83	SIMPLE	SIMPLE	2.97	MEDIUM	LOW
R	3.04	AVERAGE	SIMPLE	2.76	LOW	LOW
S	3.08	AVERAGE	SIMPLE	3.23	HIGH	HIGH
T	2.87	SIMPLE	SIMPLE	3.11	MEDIUM	HIGH
U	2.98	SIMPLE	SIMPLE	2.66	LOW	LOW
V	2.76	SIMPLE	SIMPLE	2.49	LOW	LOW
W	3.15	AVERAGE	COMPLEX	2.96	MEDIUM	LOW
X	2.97	SIMPLE	SIMPLE	2.81	LOW	LOW
Y	1.94	SIMPLE	SIMPLE	2.18	LOW	LOW
Z	2.24	SIMPLE	SIMPLE	1.93	LOW	LOW

NOTE: The **ANOVA** analysis consists of three categories -
For Planning Sophistication: Complex, Average & Simple and for Marketing Concentration: High, Medium & Low.

The **Chi-Square** analysis consists of two categories -
For Planning Sophistication: Complex & Simple and for Marketing Concentration: High & Low.

* Source: The Complete Data Set - Appendix 7.2.

Based upon the three level classification system, the results

of the two-way ANOVA are tabulated below -

Table 7.5(b).

Evaluation of the Interaction Between Launch Planning Sophistication and Marketing Strategy Concentration and their Combined Effect Upon Early Commercial Success

Anova table for a 2-factor Analysis of Variance on Y 1 : RANK

Source:	df:	Sum of Squares:	Mean Square:	F-test:	P value:
EXTENT OF PLNG (A)	2	143.66	71.83	3.6	.0451
EXTENT OF MKTNG (B)	2	54.21	27.11	1.36	.2784
AB	4	12.07	3.02	.15	.9603
Error	21	418.56	19.93		

There were no missing cells found.

The results set out in Table 7.5(b). indicate that only the degree of planning sophistication has a significant association with product success at the 5% level. But 'marketing strategy concentration' is far from any acceptable level of significance. Insofar as the relative levels of significance of different variables are an indication of their 'importance' this result lends further support to the earlier findings that the degree of planning sophistication that goes into a new product launch is a greater contributor to that product's subsequent performance than the degree of strategy 'concentration' undertaken.

However, any interaction between launch planning sophistication and marketing strategy concentration is negligible. Consequently the null hypothesis is accepted (the computed 'F'

ratio of 0.15 is less than the critical value of 2.84 for the one-tailed 5% test). The early commercial performance of new product launches does not vary significantly with greater levels of planning sophistication in combination with higher degrees of marketing strategy concentration. The implication is that there is no value in employing different approaches to new product planning with different types of marketing strategy to achieve more successful launches. This said, Table 7.5(c). below does indicate that more sophisticated planning is found in conjunction with a more concentrated strategy (five observations). Similarly, lower levels of sophistication are found with lower levels of concentration (seven observations).

Table 7.5(c).

The Association Between the Three Levels of Planning Sophistication and the Three Levels of Marketing Concentration

The AB incidence table on Y 1 : RANK

EXTENT OF M...		HIGH	MEDIUM	LOW	Totals:
EXTENT OF PLNG.	COMPLEX	5 24.4	4 21.25	1 18	10 22.5
	AVERAGE	4 18.75	4 16	2 14.5	10 16.8
	SIMPLE	1 16	2 13.5	7 14.14	10 14.2
Totals:		10 21.3	10 17.6	10 14.6	30 17.83

A possible relationship is therefore suggested - but given the limitations of the sample size and the fairly crude classification system eg 'complex, average and simple' (a requirement of the statistical package) it is not possible to progress, at this stage,

beyond speculation. As such, the research results do not allow us to say that there is a clear link between more sophisticated planning, a more concentrated marketing strategy and superior new product commercial performance.

This analysis is supplemented by the chi-square test, which is used to ascertain whether or not the two classification methods (the 'sophistication' of the planning process and marketing strategy 'concentration') are statistically dependent. But, for a 3 x 3 table (ie 'Complex / Average / Simple' and 'High / Medium / Low') the expected cell sizes are too small, falling below five, and authorities (eg Miller, 1984) do not recommend the test. However, simplifying the categories by collapsing them into just two for each of the independent variables overcomes this difficulty - ie 'Sophistication' is divided into 'complex' & 'simple' and 'Concentration' is divided into 'high' & 'low'. This was set out in Table 7.5(a). on page 307. The chi-square results, based on this more parsimonious model, are tabulated below -

Table 7.5(d).

The Association Between Launch Planning Sophistication and Marketing Strategy Concentration

Coded Chi-Square X_1 : DEGREE OF PLNG Y_1 : DEGREE OF MKTNG

Summary Statistics

DF:	1	
Total Chi-Square:	3.33	p = .0679
G Statistic:	3.4	
Contingency Coefficient:	.32	
Phi:	.33	
Chi-Square with continuity correction:	2.13	p = .1441

These results show that the value of chi-square is not

significant at the 5% level. This is because the observed value of 3.33 is less than the critical value of 3.84. Further, the (Yates') correction for continuity also shows that the value of chi-square is not significant at the 5% level (probability = 14 %). In line with Spiegel's (1972) recommendation, since both these results lead to the same conclusion, the null hypothesis cannot be rejected.

Consequently, there is no significant evidence to show that more sophisticated launch planning is found in conjunction with more concentrated marketing strategies. However, because the reasons for not rejecting the null hypothesis are not overwhelmingly strong it is appropriate to comment upon the strength / importance of the relationship. With a 10% significance level it may be said that the strength of the relationship is 'passable' with Pearson's contingency coefficient shown as 0.32 (upper limit 0.707) and Phi (equal to Cramer's 'V' in a 2 x 2 analysis) at 0.33. It can therefore be argued that the relationship is significant at the 10% level and this relationship has *practical* significance - as suggested by the latter two statistical tests. What may be concluded is that there is a weak association between the 'sophistication' of the new product planning system and the 'concentration' in the marketing launch strategy. This is suggested in Table 7.5(e). overleaf.

From the table it will be seen that the best planning practice - described as 'complex' is found in conjunction with the 'greatest' marketing strategy concentration (described as 'high') in 33% of the observations (ten out of a total of thirty).

Table 7.5(e).

The Association of the Two Planning 'Sophistication' Categories With the Two Categories of Marketing Strategy 'Concentration'

MARKETING CONCENTRATION

Observed Frequency Table

	COMPLEX	SIMPLE	Totals:
HIGH	10	5	15
LOW	5	10	15
Totals:	15	15	30

PLANNING SOPHISTICATION

At the other end of the spectrum 33% of observations regarding 'simple' planning practices are found in conjunction with a 'low' level of marketing strategy concentration (ten out of a total of thirty).

7.5.1. Discussion of the Results Regarding the Interaction of Launch Planning and Marketing Strategy

No evidence of an interaction effect between launch planning practices and implemented marketing strategies was found. Consequently the null hypothesis was accepted. Whilst separately these independent variables do seem to effect the dependent variable of 'early commercial success' (especially launch planning), in conjunction a joint impact was beyond the powers of the research design to discern. This may appear surprising since logically one can argue that a more sophisticated launch planning

process should lead to a superior marketing strategy. Further, it was shown earlier in this Section that 'superiority' lies in having a more concentrated strategy - although the statistical significance was weaker than that for the degree of planning sophistication.

But it is perhaps in this weaker relationship that the answer to the problem lies. What appears to be happening is as follows - the best performing new product launches are distinguished by a more sophisticated launch planning process. This process of itself is more likely to ensure that a successful NPD project is translated into an early commercial success, with the marketing resources employed in the launch used to best effect - whether or not the realized marketing strategy could be described as more 'concentrated'. It is also apparent from the interviews and research data that many of the sample companies were pursuing new product launch strategies akin to an industry 'formula' or 'recipe'. As such there was not a great deal to distinguish many of the strategies followed by the firms, especially those in the middle level of the performance rankings. This is not altogether unexpected since most respondents were well aware of their competitors actions especially with regard to new product launches - a subject of sensitivity and high profile in the electronics industry. As such, many of the respondents espoused the virtues of the conventional wisdom of concentrating marketing resources on clearly identified market niches and meeting or out-spending the competition on those mix variables that would secure a competitive advantage for their new product launches. The result of this is that what really distinguishes the best performing

launches from the poorest is the quality of the launch planning - for it is this that ensures the marketing strategy is sensitively and effectively employed. In addition, the quality of the planning processes is something that is proprietary to each firm - hidden and much more difficult to replicate by competitors.

Thus it can be surmised that the results in this Section, when interpreted in the light of the earlier sections, provides good evidence for the greater importance of launch planning relative to marketing strategy. 'Strategies', within the limitations of the measuring instrument, are broadly similar, whilst the quality of the launch planning differs widely. The distinguishing feature of the most successful launches is a more sophisticated approach to launch planning.

7.6. CONCLUSIONS

The primary purpose of this research has been to evaluate the effect of new product launch planning upon the commercial success of new products - measured one year after the launch date. A secondary purpose has been to test the impact of the realized marketing strategy (largely the outcome of the planning process) upon success. The interaction between launch planning and marketing strategy has also been evaluated together with their combined impact upon success. To this end respondents in the thirty sample companies answered a series of piloted questions. These employed objective scales that facilitated the statistical testing of hypotheses.

The research results have been evaluated in this Chapter using both parametric and non-parametric tests. With regard to the planning variable the results were highly significant. The marketing strategy variable was also significantly associated with commercial performance but at a lower level. However, contrary to expectations there was no apparent interaction between 'sophistication' in launch planning and the 'concentration' of marketing strategy. With the benefit of respondents comments and hindsight this result is explicable. Further, the research was exploratory in nature and it would be wrong to over-emphasise the statistical significance of the findings. The scales employed can also be refined to better reflect the complexity and multi-dimensional nature of planning. This said, the alternate, primary hypothesis is strongly supported.

Through the research instrument it has been possible to demonstrate how the best performing launches use a broadly based, more sophisticated planning system that balances the formal with the informal and internal attention with an external focus. This is in contrast to the less successful firms that had a more casual and lackadaisical approach.

Of particular interest is that the research has shown that highly formal planning is unnecessary to achieve greater commercial success. The differences in the degree of formality in planning between the best and poorest performing launches was not significant at the 5% level, although the better performing firms were somewhat more formal (significant at 8%). This is not

to say that at an ad-hoc approach to planning will suffice. In absolute terms both groups employed a degree of formality - but the process was conducted 'loosely' rather than in a rigid bureaucratic manner. Further, any reduction in formality was compensated by the other elements in the planning process. In particular, successful planning is facilitated by greater participation and more extensive monitoring & control.

The realized marketing strategy was evaluated as a product of the planning process and the analysis revealed differences of degree between the strategies pursued in the better and poorer performing businesses. Overall, the more successful launches were significantly associated with a more concentrated marketing strategy. But of the sub-variables contributing to this composite variable, only 'marketing effort' (made up of relative expenditure on the communications mix, service performance and product value) was found to be significant over the range of statistical tests employed.

These results 'flagged' the outcome of the final analysis in which, contrary to expectations, no interaction was found between the 'degrees' of sophistication in planning and marketing concentration and their combined impact upon launch performance. However, the results indicate the greater importance of launch planning, rather than marketing strategy, to the success of a new product. Of itself this is a valuable finding and provides support for the more general view that planning can be a significant contributor to corporate success.

The statistical results are expanded in the final Chapter with the introduction of the qualitative data gathered during the interviews.

CHAPTER EIGHT

DISCUSSION AND MAIN CONCLUSIONS

8.1. PURPOSE AND OVERVIEW

Based upon the statistical analysis of the interview data the previous Chapter set out the findings of the research. The purpose of this final Chapter is to consider the wider implications and value of the study, utilising both quantitative and qualitative sources. To this end the practical merits of the findings are reviewed in terms of their application to new product launch activities.

Our research has fulfilled its main objective and it has clearly been shown that launch planning can make a significant contribution to new product early commercial success. However, it is noteworthy that formal planning *per se* is of limited value. A certain degree of formality does appear to be necessary, but effective planning only comes into its own when allied to those other elements - market analysis, participation, characteristics of the plan, monitoring & control and flexibility - that combine to produce a 'sophisticated' planning process. The message is that simply instituting more formal launch planning procedures will not of itself lead to greater commercial success. An altogether more sophisticated approach is required.

With regard to marketing strategy, the results were not as decisive. However, they do support the proposition that firms should concentrate their marketing efforts upon clearly defined targets, 'out-gunning' the opposition on the critical marketing dimensions.

Invariably, there will be an exception to the general findings, and in this research it was a company that performed exceptionally well, yet showed little overt evidence of planning or a well directed marketing strategy. Consequently, a 'mini case-study' is included to illustrate how one very successful company can 'fly in the face' of expectations, yet simultaneously support the main arguments of the investigation. These findings are substantiated in an associated Appendix (8.2[a].) that uses quotations from respondents describing the processes adopted in the ten best performing launches.

The main issues of best launch practice are summarised in a series of key points - accompanied by a narrative description. Subsequently, they are recast in the production of a 'Plan for Planning' (Appendix 8.2[b].) for distribution to the interviewees.

Following the discussion of the practical results, the contribution of the findings to marketing theory are reviewed. Set in the context of the NPD, Organisational, Planning and Marketing Strategy research traditions the key issues are identified as - First, the need to take a balanced view of the relative worth of the different stages of NPD ie the final stages are just as important as the pre-development stages. Second, planning can be successfully evaluated as a multi-dimensional activity covering both an initiation and implementation stage. Third, planning (ie process) can make a bigger contribution to success than strategy (ie content). It is also noted that literature cited earlier (Sections 3.4.1. & 5.6.) indicates that the results are not restricted to firms operating in the electronics industry.

Finally, the limitations of the research design and consequent results are discussed. This leads to an appraisal of the opportunities for refining the measuring instrument and conducting research across a broader spectrum of innovation types.

8.2. THE PRACTICAL VALUE OF THE FINDINGS

In our examination of the contributory factors to the success of new product development projects it was established that launch planning had not been studied in a detailed manner by other researchers - yet the work that had touched upon planning indicated that it was a vital ingredient in new product success. Additional analysis also revealed that the specific features of the marketing launch strategy had not been evaluated in any detail although again there was evidence to suggest that certain strategy approaches were more likely to lead to a successful launch. From these two linked observations first and second order hypotheses were developed against which the separate and combined impacts of launch planning (first order) and marketing strategy (second order) upon new product early commercial success could be tested. The commentary below follows this progression - from planning to strategy and then on to their joint association with the dependent variable.

In the next two sections a range of positive recommendations are made for effectively undertaking the launch planning process and formulating successful marketing strategies. These are further developed into 'A Plan for Planning' in Appendix 8.2.(b). - produced in response to respondents requests for a layman's guide to

successful launches. Reading this distillation of the research evidence it will be apparent that it has not been possible to reduce planning and strategy to a few simple nostrums. Both process and content have proven to be complex phenomena, although interpretation of the hypothesised models has allowed the development of a coherent view of best practice. This accords well with 'good sense'. As complex, multi-dimensional procedures it would indeed be surprising if planning and strategy could be reduced to a couple of 'one-liners'. This would be *reductio ad absurdum*. Rather, a far richer model emerges in which a complementary pattern of activities can be seen to tie planning to strategy.

8.2.1. The Importance of Planning to Launch Success

The main purpose of the section is to set out in an actionable format the practical findings of the research. To this end it is organised in two closely related components. **First**, the main findings are summarised to emphasise the key features of the best launch planning practices. Serving as a supplement to these points, the results of the research and the associated questions used to elicit the data are tabulated in Table 8.2.1. Levels of significance are omitted, although the commentary is guided by both the statistical strengths of relationships and the discussions with the respondents. **Second**, these highlighted ingredients of 'best' planning are informed by a narrative description of the more significant aspects of good launch planning procedures.

The Key Features of Best Launch Planning Practice: A Managerial Guide

At the outset it should be emphasised that the research showed that more successful launches are indeed guided by a launch plan. What follows is a outline of the main ingredients of an effective planning process.

a) * **Top management facilitates and supports launch planning.**

An active interest is shown, although the project team enjoy a fair degree of discretion.

b) * **One person should have clear responsibility for producing the plan.**

Usually this will be the project team leader - directly answerable to a senior manager ie the marketing/sales director.

c) * **Launch planning begins early, becoming formal about 70% of the way through the NPD process.**

Launch planning is an ongoing, iterative activity. The 'formal' stage is a continuation of informal deliberations begun towards the beginning of NPD eg about 15% from the start.

d) * **Use is made of a wide variety of information sources.**
Successful planning starts with a comprehensive evaluation of a wide range of data. This means using both internal and external material - including accounting records, trade surveys, sales force reports and customer and supplier comments and appraisals. **Ideally this information will be drawn from a marketing information system.**

e) * **The planning process is moderately formal.**
There may well be a 'plan for planning' - a set of guidelines. Regular and frequent inter-departmental meetings are held, recorded in note form. These meetings can be ad-hoc and kept fairly informal. Deadlines are set and where practical kept.

f) * **A broad range of participants are involved in the planning.**

This involves direct contributions from various functions (eg Marketing, R&D, Production etc) within the firm as well as consultation with organisations outside the firm (eg [collaborative] customers, distributors, suppliers etc). Top management maintains an overview.

g) * **The plan is a brief document - looking ahead into the second year after launch.**

Objectives are quantified - reflecting longer term sales and market share criteria rather than just immediate financial requirements. The aim is to become a major player in a global niche. Where appropriate, market place evaluations are always made relative to the competition.

h) * **Once completed the plan is widely circulated.**

This is on a need to know basis - with perhaps an abbreviated version. It is 'user friendly' and tailored for the intended readership. Continuity is facilitated by making the product manager part of the NPD/planning team.

i) * **Checks on performance are frequent and rigorous.**

Prior to and following launch inter-departmental meetings are regular and systematic. They focus on a few critical variables - especially customer satisfaction. A key factor is an ability to actively evaluate competitor moves and reactions.

Continued ....

j) * **The plan is adapted in the light of post-launch circumstances.**

The product manager has delegated authority to make necessary changes, within pre-ordained limits. Changes are swift.

These summary pointers to better launch practice should be seen in conjunction with Table 8.2.1. opposite. This provides additional insights, counterpointing the relationship between the research findings and the main questions associated with each of the tertiary hypotheses. In each case a comparison is made between 'best' and 'worst' performing launches.

A Narrative Review of Best Launch Planning Practice

The most important practical finding from the research is that more sophisticated launch planning has a very significant association with new product commercial success. It also appears that incremental improvements in planning procedures could lead to better launch performance ie 'step' changes in current activities are not required to enhance success rates. As such, companies should be able to improve their planning without resort to potentially disruptive alterations to existing practices.

However, when planning is disaggregated it is apparent that the components of the process assume various degrees of importance. Taking first the only aspect of planning that confounded expectations, it is apparent that the degree of **formality** in planning is not a major contributor to greater new product success, although the most successful launches are

Table 8.2.1.

COMMENTS ON THE MAIN DISTINCTIONS BETWEEN THE BEST & WORST PERFORMING LAUNCHES ON THE PLANNING PROCESS VARIABLES

PLANNING VARIABLES	COMMENTARY
MARKET ANALYSIS }	Overall much* greater for successful launches
Use of market research	Very much greater use
Use of market testing	Greater use
Range of information sources	Wider range, inside and outside of SBU
FORMALITY }	Overall marginally more formal for successful launches
Launch phase recognised	More common
Resp'bility for plng. made clear	More common
Guidance in planning	Hardly more common
Sticking to procedures	More common
Clear min. standards for perf.	Explicit minimum standards for mkt. perf. more common
Use of meetings	More common
Use of note keeping	A little more common
Communication of plans	Much greater use made of a formal document
Post-launch product review	Much more regular and systematic
PARTICIPATION }	Overall far wider range of participants
Extent of consultation	Much greater, inside & outside SBU
Corporate guidance in planning	A little more common
Top mgt. involvement in plng.	More common
Mktng. control of launch budget	Much greater
Top-down or bottom-up plng.	Slightly more bottom-up
Areas involved in planning	Wider range of functions much more likely
Communications development	Wider range of functions much more likely
Circulation of plans	Much wider
PLAN CHARACTERISTICS }	Overall much more mkt. oriented, ambitious & long term
Quantification of objectives	Much more likely
Object's. mkt. or fin'ce. orient'd.	Objectives much more likely to be sales/market oriented
Ambition of objectives	Much more likely to be ambitious eg world leader
Length of plans	Slightly shorter eg. no more than 6 pages
Futurity of plans	Much more likely to extend into 2nd year of life cycle
MONITORING & CONTROL }	Overall more extensive & rigorous
Frequency of perf. checks	Inter-dpt. meetings to check performance more frequent
Number of variables checked	Fewer and the 'key' variables
Customer satisfaction checks	Much more frequent. Top management active
Competitor monitoring	Much more common
Control techniques used	Somewhat more sophisticated eg bar charts
Use of deadlines	More common
Launch budget setting	More sophisticated eg objective & task
Management continuity	Little difference. Most firms had prod. m'gr. in NPD team
FLEXIBILITY }	Overall plans for successful launches used more flexibly
Sticking to plan	Somewhat more likely to change plans
Speed of reaction	Much more likely to change quickly
Delegation to product manager	Somewhat more discretion allowed to product m'gr.

The 'best' = the top one third launches, the 'worst' = the bottom one third launches
* 'Much' (more) is used where the difference between the scores is 1 or more.
Source: The Complete Data Set - Appendix 7.2.

planned a little more formally. A certain degree of formality is a necessary condition for a successful launch, but care should be taken to ensure that once the threshold has been passed it is not exceeded to a degree that strangles the planning process in petty bureaucracy. In particular the launch phase is recognised, and planning is conducted in an 'authorised' fashion, although the daily procedures are often ad-hoc. Informal, but regular meetings are the norm - and a short, succinct (about six pages), formal document is the outcome. The production of the plan is clearly assigned to one person - usually the project team leader who is directly answerable to a senior staff member. This could well be the marketing director who takes an active interest in the planning process.

With regard to the other components of planning it is possible to make strong recommendations of how improvements in the planning process are most likely to yield dividends.

Planning should be well informed through extensive **market analysis**. This will be conducted within an established MIS, utilising a wide range of information sources. Desk research starts with the firm's own records. For example the accounting system - tailored to provide easily accessed data on things such as customer purchase behaviour, margins etc. This should be complemented by a systematic review of the technical and trade literature - best accomplished by a designated member of staff. Field research is also conducted on a regular basis. The sales force serve as an invaluable conduit of information from distributors / customers and about competitors - to be fed into the MIS.

Additionally, key customers, where appropriate, will serve as 'test beds' for new products. Together, this data is used to better target the new product, ensuring that critical selling propositions are effectively presented to the best prospects.

The comprehensive breadth of information sources is reflected in a wide range of **participants** involved in the development of the plan. Consultation can include suppliers, distributors and customers, whilst direct contributions are made from all of the 'interested' functions eg marketing / sales, R&D, manufacturing etc. A senior manager oversees this collaboration, although on balance the process is 'bottom-up'. This is mirrored in the degree of autonomy allowed to the marketers in determining the launch budget - which is based upon achieving identified objectives. Participation is also mirrored in the concern shown for the 'user friendliness' of the public aspects of the plan. Within the firm it is widely circulated (to all interested parties), but tailored to the requirements of the intended audience eg manufacturing does not require the same information as sales, whilst a synopsis is appropriate for the general notice board. Outside the firm outputs from the planning process can be purged of jargon (perhaps by consultants) and translated into the language of the purchaser / user. This aspect of launch planning also illustrates how the plan flows into a variety of manuals, bulletins, literature and advertising media designed to enhance the new product's prospects.

The plan itself is characterised by a commitment to quantified objectives, emphasising market rather than financial

criteria. These reflect an early emphasis upon achieving ambitious sales and market share targets, often conceived as European or even world leadership - tightly defined in 'niche' terms. Financial hurdles such as break-even are therefore often consigned to the second year of the plan - which is not to underrate the stringent financial criteria utilised. But rather, substantial (high-margin) sales are seen as the prelude to acceptable financial returns.

To achieve these objectives, the **monitoring & control** of the plan is rigorous with regular inter-departmental meetings. Deadlines / milestones serve as important checking devices, aided and abetted by the use of robust control techniques such as bar charts. This is facilitated by spotlighting a few key variables. In particular, attention is focused upon the varying degrees of (potential) customer response - eg product awareness, enquiry / conversion rates associated with specific communications, sales results, levels of customer satisfaction etc. Simultaneously, a close watch is kept upon competitor activity.

Binding all of this together the project leader / planner launches and manages the new product. However s/he is not irrevocably bound to the document. A **flexible** interpretation is anticipated - balanced by continued cross-functional involvement and overseen by senior personnel, invariably close to the project leader / product manager. This relationship is consultative, not prescriptive, and the hand of top management is light. Further, the product manager can exercise discretion, within established boundaries, to make changes to the original plan. Consequently,

response to the exigencies of the marketplace is rapid, facilitated by sensitive and close market monitoring.

A result of this comprehensive approach to planning is that although the implementation of the plan reflects changing circumstances, the degree of flexibility / adaptability is not as great as one might imagine, a result of more prescient planning, anticipating market turbulence and incorporating contingency actions.

8.2.2. The Importance of Marketing Strategy to Launch Success

This section is complementary to the former, and sets out the practical findings concerning the outcome of the planning process - the implemented launch strategy. Again, it is organised into two main components. In the **first**, the findings are summarised to emphasise the key ingredients of effective launch strategies. These points are amplified in Table 8.2.2. **Second**, the highlighted ingredients of marketing strategy are informed by a narrative description of its most significant elements.

The Key Features of Effective Launch Strategies: A Managerial Guide

Implementable and effective launch strategies are the purpose of the planning process. Our research has shown that firms are advised to adopt an approach to their marketing launch strategies that is best described as more concentrated. This is encapsulated in the following measures -

a) * **Spend more on the launch than competitors BUT also be more persistent.**

Whilst the targetting of scarce resources is vital, weight of resources is also an important contributory factor to success.

b) * **Invest in adequate manufacturing capacity to meet demand - and reflect this in continuing R&D spend.**

To achieve ambitious share objectives the firm should have the courage to 'lay-down' or dedicate sufficient manufacturing capacity. Confidence in meeting demand is shown through further investment in product modifications and up-dates.

c) * **Outgun the competition in the key marketing areas.**

These will vary by market, but in general ensure that customer service and dealer support are much greater.

d) * **Provide better customer value and let them know in their language.**

Whilst superior value (Relative quality ÷ Relative price) can be a clinching argument to a sale, potential customers first have to be informed of product benefits. Value does not sell itself !

e) * **Concentrate on market niches with long term potential.**

Ensure that closely defined markets can grow to support substantial sales. At the very least they should be conceived on a European scale.

f) * **Target larger, innovative firms.**

These will often be regular customers - with a reputation themselves for innovation. They are also more likely to place repeat orders than other firms.

In Table 8.2.2. below these pointers to more successful marketing strategies are set out in terms of comparisons between the best and worst performing launches.

Table 8.2.2.

COMMENTS ON THE MAIN DISTINCTIONS BETWEEN THE BEST & WORST PERFORMING LAUNCHES ON THE MARKETING STRATEGY VARIABLES

MKT. STRATEGY VARIABLES	COMMENTARY
MARKET AMBITION }	Overall set higher for more successful launches
Size of launch budget	Much* higher than competitors
Persistence of expenditure	Greater than that of competitors
Ability to meet demand	Could meet a higher percentage (50% v 35%)
Ongoing R&D spend	Greater than that of competitors
Breadth of product line	A little narrower (relative to competitors)
MARKETING EFFORT }	Overall somewhat greater for successful launches
Launch expenditure	Somewhat higher spend on the mktng. mix variables
Marketing support	Slightly greater effort expended
Product value	Higher - where: Value = quality/price (15% v 2%)
MARKET FOCUS }	Overall more focused for successful launches
Degree of segmentation	Slightly broader segments (a little less 'nichemanship')
Early sales targetting	Much more likely to be innovators/regular customers
Sales concentration	More likely to be focused on larger, fewer customers
Extent of repeat purchasing	More likely to be repeat purchase sales (75% v 55%)

The 'best' = the top one third launches, the 'worst' = the bottom one third launches
* 'Much' (more) is used where the difference between the scores is 1 or more.
Source: The Complete Data Set - Appendix 7.2.

A Narrative Review of Best Launch Strategy Practice

For a company seeking to improve its new product launch performance through the marketing strategy dimension certain courses of action are most appropriate. First, the firm should have high **market ambitions** for the new product. These need to be expressed in terms of cash and commitment, with relatively greater spending than the competition on the launch budget. But not simply a 'big splash' dribbling into nothing. Marketing persistence

is required, translated into the establishment of manufacturing capacity sufficient to meet demand. This should be matched by a continued investment in R&D, facilitating a timely stream of product updates. A premium is thereby placed upon ensuring that the planning procedures build sufficient confidence for such vital investment decisions. Linking these decisions to the planning process, it is vital to ensure that ample market information is available to inform longer term product / market developments.

With regard to how the relatively greater expenditure on the elements of the marketing mix should be distributed, there are no clear candidates for priority attention. All of the successful launches show a somewhat higher level of **marketing effort** / expenditure on each of the mix components, with 'delivery times' and 'repairs & maintenance' slightly more prominent. In short, superior customer service counts. Also worth emphasising is that when a price is set for a new product care should be taken to ensure that the product offers better relative value to prospective customers, where -

> Relative Value = relative quality ÷ relative price.
> (In each case 'relative' is in comparison to the three leading competitors: See Appendix 8.2.[b]. for an illustrative calculation)

As such, pricing decisions should be market based rather than cost based. This means that prices are set in the light of the relative product quality when judged in terms of customer perceptions and competitor offerings. On average the best performing launches offer potential customers substantially more 'value' than the poorest performing launches (eg respectively 15%

and 2%). But superior value does not simply communicate itself. Firms need to be proactive. Whilst a modicum of additional effort in advertising and selling can secure sales, the 'spade work' has already been done during the preliminary launch stages. Indeed, 'early publicity' is the most significant element of the 'Marketing Effort' variables, demonstrating the importance of preparing the market 'infrastructure' prior to the launch of a new product. This means using conferences and seminars to promote the advantages of the new product whilst simultaneously encouraging the press to feature it.

However, ambition and effort can easily dissipate without a clearly defined market and the most successful launches display a high degree of **market focus**. A useful analogy is using the rifle rather than the shot-gun. But, this should not be interpreted in terms of 'simplistic' nichemanship. Indeed there is little to separate the degree of segmentation between the most and least successful launches (the most successful launches are distinguished by somewhat less concern with greatly differentiated markets). But what marks the most successful launches is a much greater propensity to target the innovative market leaders ie those firms termed 'lead users'. The result is fewer customers (than the competition) accounting for a greater relative proportion of repeat sales. In addition, these customers are on a world scale. The most successful firms have about 70% of their sales overseas, whilst the least successful only achieve about 30%. The conclusion is that the passing vogue for niche markets can be overdone and may, if too narrowly defined, restrict the growth opportunities of a product. As noted earlier, the most

successful launches typically have more ambitious, sales related, objectives supported by heavier launch budgets. Too small a market definition would constrain sales unnecessarily, whilst a shotgun approach to a large market means dissipated effort. The 'golden mean' is a 'substantial' segment within which the firm targets the larger innovative prospects (often current [lead] customers) with a greater propensity for repeat sales.

As contemporary wisdom has it - 'Beware the niche does not become a tomb!'

8.2.3. The Relative and Combined Importance of Launch Planning and Marketing Strategy to Launch Success

The results suggest that conducting a 'sophisticated' launch planning process is more important than getting a strategy 'just right' and then failing to deliver ie a well planned and executed campaign is more significant than a first class strategy that is poorly executed. Indeed, it was argued in Section 3.3. that it is the 'extended' planning process that is the precursor of an effective (realized) strategy.

In this research, planning has been found to be the 'senior partner' in determining new product launch success. Consequently, firms would be well advised to study the adequacy of their planning procedures, seeking to improve practices in any of the six key factors which may be below par. The evidence indicates that incremental improvements can benefit performance, building upon the existing structure rather than dismantling the system and

starting again.

The foregoing does not mean that strategy can be ignored. Rather, that many firms (including the 'best' and 'poorest' performers) are following broadly similar strategies. Whilst under performing companies should examine their strategy 'mix' with a view to first matching and then exceeding 'par' conditions, it may well be more fruitful in the long run to find new ways of doing business. This of course has considerable implications for the best performing companies. They may be able to achieve competitive advantage by stepping beyond the industry 'recipe' and adding to the strategic 'menu', developing creative, mould-breaking strategies that defy the conventional wisdom. Quite what these might be is beyond the scope of the research, but it is clear that any novel marketing approach should be carefully planned. The distinctive feature of successful launches is that the planning is more sophisticated, extensive and better balanced. It is this that leads to and facilitates the effective implementation of a relevant marketing strategy.

A marketing strategy is only as good as the planning that accompany's it! But, the research has not demonstrated that more sophisticated launch planning interacts with a more concentrated marketing strategy to produce superior launch performance. No ready explanation for this result is available, although it may be attributable to the research design (section 8.4.1.), in which comparisons between companies in a single industry minimises the variance in strategy options. However, the worth of a sound strategy should not be undervalued and firms are well advised to

examine their relative marketing activities at the 'micro' level ie where strategy dissolves into effective tactical implementation.

8.2.4. A 'Mini-Case Study': The Exception that Proves the Rule

To conclude this Section it is appropriate to report the results from the firm 'AB'. The company is a world renowned leader and its launch performance rating was second. However, on the planning and marketing variables the final rankings were respectively fourth and second from **bottom**. This result is so clearly at variance to the findings for the 'best' performing group that it deserves comment. Two issues stand out with respect to the firm. First, it had achieved (world) technological leadership and in the words of the respondent (the division head) - 'One thing I can vouch for at 'AB' .... they certainly wanted us to be the best in technology. The chairman was first class - a charismatic leader and catalyst for change.' Second, of all the firms visited, 'AB' displayed an exceptional interest and willingness to learn from the research.

Because of the unusual and valuable character of the responses, the greater part of the evaluation rests upon the manager's replies, interspersed, where appropriate, with comments from the researcher. The quotes begin with a reference to Section 2 of the questionnaire -

> "When I go to the next Section *(of the questionnaire)* it makes me realise how very juvenile in terms of having a marketing plan we were. Every one tells me these days we should have

one. What do you find? Do you find that most companies do? This *launch* was gut feeling. You can see from here that informal planning took place very early, then nothing happened until we got what we felt was a real product, and then we got together to launch it. Nothing in-between except hope and pray that the team here could pull off what we thought was a good idea.

We're definitely technology led, and that's one of our biggest weaknesses beyond a doubt. In this particular case it worked out fine for us. But the more you read and listen and discuss with other people *(the more you realise)* we ought to convert over to being more market driven than technology driven.

From now on we are converting the company to being market driven and market led. Infact, shortly *(after the launch of this product)* I changed my position from being MD, and asked a new person, who was a sales person, to take over as MD. I gave him the brief that the company needs to be converted from a high-tech, highly scientific company to a market led company. And we're under-going that process now."

Question: 'How did this process come about?' -

"It's the influence of rubbing shoulders with more and more people in other companies and groups. What *(the previous chairman)* used to do was 'fire me up' with enthusiasm to get the best technology. And since that has gone there is so much internal momentum in the company telling me we must have more marketing input - that we must be more marketing led. I have given way to that feeling."

However, the company was not without its well proven methods for ascertaining the acceptability of new products. This started with internal reports in which staff reflected upon competitor activity. Plenty of stimuli were provided to trigger the leap-frogging of competitors. The key was to beat them to it. However the conduct of the development and planning was very informal -

"There was .... No specific assignment of responsibility. They exercised their own discretion. One senior engineer (head of department), the originator of the idea, was in charge of the project. A brilliant person. He did the R&D and certainly pushed it through into production and gave the marketing and sales people all the benefits so that they could go out and sell to the customer. So it was very technically led. At one stage when they saw the technical results they sat up and took notice of what he was saying. It was a first class product!

What little planning we did - we stuck to it religiously. We knew when, how and what we were going to launch. We knew the pricing structure and those didn't deviate. It wasn't documented. It was verbal."

Field testing was subsequently employed with a few customers to build up confidence for the launch.

Question: 'What about monitoring & control?'

"The standard practice of the company is to meet as a board every Friday afternoon (and once a month) and all inputs that we individually would get, we would share at our informal and formal meetings.

On this product it was gut feeling, high enthusiasm, led by a technical person from start to finish. Very little in the way of sophisticated PERT charts or things of that sort."

Question: 'What about customer contact?'

"We relied on customers contacting us, on the basis that no news is good news. In our experience when something goes wrong the customer is on to us in a micro-second. Having said that it might be more gratifying to the company if we did go out and ask the customers what they thought. But we didn't."

Question: 'How about meeting deadlines?'

"We'd rather miss deadlines. No compromises - get the best.

But it's useful to have deadlines on certain projects. On projects where it involves .... for example a large printed circuit board - quite a complex multi-layered circuit board. You find that the project goes on forever. It's an absolute nightmare. Every week the're finding a new chip. You find in those cases the best method .... is to set a certain Show as the launch date. That focuses the mind. Everything more or less makes it by 'hook or by crook' to the show and puts the conclusion to the project. To a certain extent you're cheating. Hiding behind the trauma of not turning up at the show. There's more to it than just the show. The prize of the show is that they *(the project engineers)* get the chance to go to the show - and it could be in Las Vegas ...."

Question: 'Are their pressures to reduce the development times?'

"If you could halve the time it would be an incredible boost to the company. We have programs in place now to do that."

Question: 'What about delivery times?'

"I'll give you an analogy. I sat down with our (Japanese) agent three or four years ago to review the nature of the business. I asked him for the things he didn't like about the company. He said 'The thing I don't like about you is that when I place an order you give me a delivery week when your shipment is due. What I'd rather have is the airway phone number and the day and time of arrival'. That kind of shakes you to think that that's how they think. 'I want it at ten-o-clock in the morning on Tuesday the 2nd January, 1991' - which could be six months downstream. We're not geared up to thinking like that. Now any chance of putting that to a development team .... 'On such and such a date I want this project finished'. I don't think they could come to terms with that."

Question: 'What about the launch budget?'

"With the benefit of hindsight we could have spent more money and had a more dramatic response from the market. I think we under-funded it. We didn't really have a product marketing manager for this. It was R&D led by the R&D head of department."

This was fed through into the marketing strategy, which was distinguished by a very low key approach. Indeed it could be argued that marketing awareness was very low, indicated by the response to the question -

Question: 'Did you target particular customer types eg more innovative customers?'

> "Dressing the best technology up into a package where you put on it a high price and you target the absolute top institutions in the world. They want the best and are prepared to pay for the best. We've never thought like that. An interesting idea. We are tending to treat all sectors of the market as the same."

Conclusion -

> *"However, the launch* .... was very much 'ABs' style. At Board meetings we did not discuss the mechanisms that led up to launch. We often discussed how we did the launch. For example - 'Which trade show are you using, where is it? What would be the size of the stand and have you got a main theme on the stand? Will you be inviting your key agents?'
>
> We would often discuss the mechanisms but .... never discuss the planning stages .... then go into discussing a launch budget, your promotion, advertising, who does it and how many of the inter-departmental areas you employ and so on.
>
> Again, as I said to you before, it makes one feel ashamed to answer some of the questions. The technique we employed is
>
> very untypical of what you believe a good company should be doing.
>
> The questions certainly made me think. It highlighted in my mind maybe a lot of the weaknesses we have in our operational methods. So, a very interesting survey."

It is apparent from these responses (and press comment) that the firm had much to commend it. Charismatic leadership and first class (technological) management. A leader in its field, the company informally / intuitively understood its customer requirements. It also had the R&D expertise to produce innovative products. In addition, study of the quotes above indicates that in some respects, the firm had the embryonic characteristics of 'sophisticated' planning eg good leadership, the sharing of information and field testing of the product. However, it is also clear from the responses that the devotion to technology led to a 'push' environment in which new products were conceived in the research laboratory rather than coming from the marketplace. The product in question succeeded because it was a significant enhancement to existing technology. It leapfrogged the competitors, and established a new 'benchmark' - incorporated into a substantially improved product line.

But, it is also clear from the Interview Results (Appendix 7.2., Section 1.2.) that the proportion of sales from new products and the new product success rates (both program success measures) were not as good as those of its peers. The overt, technology led approach was certainly not resulting in superior performance.

To their considerable credit, the firm is a 'learning organisation'. It recognised that 'back of the envelope' development & planning practices would no longer suffice. In consequence, more 'formal' activities were in the process of being established.

Marketing strategy has not been given much coverage in the quotes because there is little to report. The firm seemed to have implemented an adequate strategy, although an apparent weakness was that they merely matched competitors rather than surpassing them in key areas. Further, they had no plan to approach the most promising prospects. Whilst this might suffice in prosperous times, recession means that customers are hard won. The product sold well because it had superior technical performance and came from a firm with a first class reputation. This lends support to the PIMS finding that company image is one of the most important contributors to product success.

As a footnote it is worth recording that following the successful launch of the product, the company was acquired in an uncontested bid by a major UK services organisation. Subsequently, the SBU in question was sold, to the 'relief ' of its managers, to another, highly successful, UK electronics company.

A counterpoint to this synopsis of a 'non-planning' company's activities is set out in Appendix 8.2.(a). The quotations are taken from the interviews conducted with the ten 'best' firms (excluding company 'AB') and are woven together to create a picture of the planning activities undertaken for the most successful launches in the sample. Based upon a combination of the evidence from these quotations and the review of the practical implications of the research in sections 8.2.1. & 8.2.2. a recommended 'Plan for Planning' is laid out in Appendix 8.2.(b). This 'Plan' has been developed in response to interviewees requests for feed-back on the research results.

8.3. THE THEORETICAL CONTRIBUTION OF THE FINDINGS

The research has been grounded in the empirical findings of a range of research traditions - NPD; Organisational Behaviour; Marketing Planning and Marketing Strategy. These traditions were utilised in Part Two of the thesis and resulted in a series of hypotheses that were tested in the field amongst a sample of thirty high-tech companies. The outcome of the experimental design has been evaluated in Part Four and the next five sections of this final Chapter set the results in the wider context of the utilised research traditions, examining the contribution made to each.

These sections should be read in the light of the earlier discussions (Sections 3.4.1. & 5.6.) that dealt with the wider applicability of our findings. Although the experiment was restricted to a single industry, by virtue of its leading role the results have implications in all of the research traditions across a range of marketing contexts.

8.3.1. Contribution to the NPD Tradition

In the review of the NPD literature it was found that the role of launch planning had not been examined as a distinct activity before. Rather, it had been 'bundled up' with other NPD variables and their relative importance measured. However, the available evidence suggested that more 'extensive / rigorous' planning was associated with more 'successful' products. The research has strongly supported this finding and shows that in the specific

context of launching a new product, **launch** planning has a **key** role to play. 'Launch' planning is emphasised because it should not be confused with the 'business analysis' phase of NPD, occurring towards the beginning of the development process (eg Booz, Allen & Hamilton, 1982). Rather, launch planning is undertaken during the launch phase of 'commercialization' and has been shown to be a recognizable activity in its own right, having a strong association with early commercial success.

In contrast to our research, Cooper (1988b) and Cooper & Kleinschmidt (1991) have drawn attention to the importance of the pre-development stages of NPD. They have emphasised the role of a corporate 'new product charter' or 'protocol' and the role of - 'screening', 'early market analysis' and 'preliminary technical assessment'. Clearly these early phases in the NPD process are important to commercial success. They help to ensure that the product concept is appropriate for an identified market and within the R&D and manufacturing competence of the firm. However, it was maintained earlier in the thesis (section 2.4.2.) that Cooper had overlooked his own results from both the NewProd I (1979b & 1980) and NewProd II (1988a) studies. In NewProd I the launch phase was found to be the most important in determining new product success, whilst in NewProd II he found that the commercialization stage showed the largest differences between success and failure for both man-days employed and money spent. Confirmation of the significance of this stage was forthcoming from Souder (1987) who identified the greater 'importance' of aft-loaded activities in determining the success of new

electronics products. Consequently, earlier research can be interpreted as providing strong supporting evidence for the contention that the final stage of NPD is just as important as the first stage.

This research has not evaluated the relative value of each NPD stage. But it has lent strong support to our interpretation of the earlier findings. Launch planning is a highly significant contributor to the early commercial success of new products. As such it seems more appropriate that researchers, rather than extolling the relative virtues of one or other of the NPD stages, should concentrate upon exploring how each NPD activity can be improved. Relative 'worth' is probably context specific and best left to the managers concerned.

Successful NPD depends upon the effective completion of a wide range of activities and it is a brave researcher who claims to have discovered the 'philosopher's stone'. Support for this conclusion is forthcoming from Peters (1988) who now renounces his simplistic 'restricted set' notions of corporate 'excellence'. Commercial success cannot be explained by a few simple determinants. What is required is a more sophisticated and balanced view of the contributory variables. It is insufficient to be good in a few areas - a firm has to be adequate / good in most and excellent in those activities vital for achieving competitive advantage.

8.3.2. Contribution to the Organisational Tradition

From an organisational perspective the 'launch planning' activity was operationalized as a complex, multi-dimensional process stretching over both the pre and post-launch periods. This extended view of the (launch) planning process was an original feature of the research. The results have indicated that to gain an insightful picture of planning it is inadequate to merely categorise the process according to the degree of formality. This may offer a partial explanation of why the planning literature has been inconclusive in demonstrating its effectiveness. As an example, Grinyer et al (1988), in a study of the UK electrical engineering industry, were surprised to find that the association between planning formalization and business growth and profitability was neutral. But, 'Formality' as a solitary descriptor is incomplete and should be, where possible, supplemented by additional variables. Our research also incorporated 'Market Analysis', 'Participation / Integration', 'Monitoring & Control' and 'Flexibility' - identified as activities extending over both the pre and post launch planning phases of NPD (ie initiation & implementation). In this context it has been shown that a broader conceptualisation of the organisation for planning is a powerful tool in analysing the impact upon (launch) performance. 'Formalisation' is a necessary planning condition, but with upper and lower limits - a minimum threshold has to be breached to ensure a coherent approach, although too much formalisation may strangle the creation of an effective strategy. Additionally, it is important to note that although the 'formality' of launch planning was not found to be high, the rigour (eg formality) by which monitoring & control is

conducted goes some way to compensate for the lower significance level of the 'formality' dimension.

As such our research bears out the conclusions of McDonough III & Kinnunen (1984). Formality yes - but not too much. Researchers are therefore cautioned - if told that 'planning does not pay' - ask ' just what is meant by planning and how is it measured?'

8.3.3. Contribution to the Marketing Planning Tradition

Organisational factors represent the enabling conditions for effective planning, whilst planning itself may adopt numerous forms, in part conditioned by the organisational climate. To study the planning undertaken for the purposes of launching new products a process viewpoint was adopted rather than a simple categorisation into eg planning versus non-planning or formal versus informal. The dichotomous approach has often been adopted by earlier researchers (eg Bracker et al, 1988; who investigated planning in smaller electronics firms), but this method was felt to be inadequate for research detailing the critical features of planning. Consequently, the process model developed was informed by the work of Mintzberg & Quinn (1991). In particular, a view was adopted of planning as an activity extending over both an initiation (development) and implementation (action) phase. During initiation a plan is evolved, although from a conventional standpoint the process may appear 'fuzzy', semi-formal and disparate. Mintzberg might argue that this is not 'planning', although as the research found the participants certainly felt they were engaged in planning

- not always as a separate activity, but certainly with the objective of producing a brief *working* document. The emphasis here is upon 'working' since the implication is that the resulting plan is not 'written in tablets of stone'. In part this reflects the pressure of time, but also corresponds to a realistic appreciation that as a living document the plan will have to be modified and adjusted during implementation. This aspect of post-launch planning is termed 'flexibility' and is a reflection upon the extent to which a plan is modified in the face of market realities.

The impact of planning procedures upon new product launch performance was the most striking finding of the research and it is argued that planning, viewed as a complex, multi-dimensional process, is a powerful contributor to success. The research therefore falls into the 'it pays to plan camp'. But it is important to note that if planning had simply been categorised in terms of its 'formality' the result would not have been significant at the five percent level. The conclusion is that formality is not enough, although a certain degree of formality appears necessary to bind the planning process together. This result perhaps explains why various studies (eg see the literature review of Sinha, 1990) have reached contradictory results - for some companies, under differing circumstances (eg industry, economic 'climate', organisational type / style etc) planning measured by the degree of formality has sometimes had a positive impact, sometimes a neutral impact. However, our results strongly support the contention that a more sophisticated (or comprehensive) view of planning can bridge the gap between the two 'camps'. Where planning is judged in terms not just of 'formality' but also with

other factors (eg 'Market Analysis', 'Participation', 'Plan Characteristics', 'Monitoring & Control' and 'Flexibility') the relationship to 'success' becomes more clear cut. This view of planning could be termed a 'soft' view in contrast to a 'hard' or 'formal' perception, analagous to the 'loose' versus 'tight' dichotomy utilised by NPD researchers such as Johne & Snelson (1990). From this perspective, planning is part of an organisational 'condition' in which firms impart a 'thought through' or rational direction to their activities. This may be achieved by a greater or lesser degree of 'formality'. But what really makes the difference are such factors as the range of participants involved in planning, the contacts with the external environment etc (pre & post launch) and how positive the attitudes of the key players are towards determining the future of the new product.

It should also be noted that the results of the research provide corroboration for Greenley's (1983) findings that 'Market Analysis', 'Plan Characteristics' and 'Monitoring & Control' are amongst the most important contributors to marketing planning effectiveness.

8.3.4. Contribution to the Marketing Strategy Tradition

The approach to marketing launch strategy evaluated in the research was developed in the framework provided by the PIMS studies devoted to new venture and new product launches. This was informed by a general review of the disparate new product launch strategy literature. With one exception (Morrison & Tavel, 1982) the literature supported the proposition that more successful

launches are funded by relatively (note that again 'relatively' refers to expenditure or effort measured relative to the average levels of the three largest competitors) greater marketing budgets. The results of the research were ambiguous. There was a clear distinction between the most and least successful launches on the question (Qu. 3.1[a] of the questionnaire) dealing with the relative size of the launch budget. But the two questions (Questions 3.2 [a] & [c]) dealing with the effort expended on elements of the marketing mix revealed only marginal differences. It is of value to quote Morrison & Tavel -

> '.... businesses appear to spend more than is needed to gain a favourable market position. .... Those businesses that actively engaged in introducing new products, but nevertheless maintained a moderate level of marketing expense, were able to attain a more favourable increase in market share and a distinctly stronger ROI than those that spent more heavily on marketing.'

Our research, contrary to expectations, lends some support to this finding insofar as the level of relative marketing effort expended on elements of the marketing mix did not markedly differ between the most and least successful new product launches. There are two related explanations for the result.

One: Many of the cited PIMS studies concern new *business ventures* rather than new product launches. Clearly, a new venture is usually a riskier and more expensive proposition than new product development within an existing organisational structure. For a venture it will often be necessary to create a new marketing infra-structure (at considerable cost), whereas a new product from an existing SBU will often enjoy the advantages of lower

priced marketing synergies.

Two: The research found that the most successful launches enjoyed greater benefits from the company image and reputation. This represents the 'accrued interest' on past marketing expenditure and may explain how the most successful launches can succeed with little extra, relative marketing effort. Additionally, the most successful launches came from companies that enjoyed both a higher proportion of sales from new products and a higher success rate with their new product launches (Table 7.2.4[b]). Again, this finding is supported by Morrison & Tavel (1982) and indicates an 'experience' effect associated with greater practice at developing and launching new products. The more a company engages in NPD the lower its relative marketing expenditures would appear to be for a successful launch.

These findings indicate the importance of interpreting PIMS results with caution. As the research has shown, firms need to husband their launch resources, ensuring that marketing effort is allocated to the critical 'mix' variables. The sheer 'weight' of money put behind a product launch does not seem to be the formula for success. Rather, as the research has shown, a more carefully targetted segmentation strategy can yield greater returns. This places segmentation at the centre of the launch strategy and corresponds to Kotler's (1991) view that segmentation, targetting and positioning are 'the heart of modern *strategic marketing* '.

Finally, further consideration should be given to whether the findings from this research relate to 'strategic' or 'tactical'

planning. New product development for high-tech firms is a central feature of their raison d'etre. Given the importance of organic growth, planning for new product launches is a strategic issue to which it was found senior executives gave considerable time and attention. Whilst the research concentrated upon the 'successful' product launches conducted by each of the sample firms, the respondents indicated that the practices described were typical of and integral to their future success. As such we may conclude that new product launch planning and the implementation of the resultant plans is a strategic undertaking with profound implications for the survival and growth of high-tech firms.

8.3.5. Discussion

As its main objective, the research has drawn together and combined a range of complementary and overlapping research traditions to better understand what constitutes an effective planning process and its role in the early commercial success of a new product. As a subsidiary objective, the research also evaluated the effect of the realized marketing strategy upon product launch. The rationale behind this dual approach was that the realized strategy, embodied in the plan, could have a strong impact upon the outcome of the launch. As such it was reasoned that the planning process should be studied in conjunction with the realized contents of the plan. This approach had previously been employed by Robinson & Pearce (1988) in a multi-industry study utilising a rudimentary single scale for 'planning sophistication' in conjunction with a 22 scale representation of marketing strategy.

As hypothesised, the research has demonstrated the importance of launch planning to new product success. But contrary to the earlier work of Robinson & Pearce (1988), realized strategy played a 'secondary' role. At first sight it is a surprising result - "surely the impact of a **'realized'** strategy must outweigh the impact of any prior planning?" However, the research shows that the majority of firms were following broadly similar launch strategies - a result reminiscent of Grinyer & Spender's (1979) concept of an industry 'recipe'. In consequence, 'strategy' as operationalized in the PIMS studies, was a poor discriminator between the best and worst performing launches. But what did serve to separate 'good' from 'mediocre' was the quality of the launch planning - conceived as 'sophisticated'. The rationale for this finding is directly related to the function of planning as an activity undertaken to map out a realistic course of action to achieve an identified goal. Where there is little to distinguish between the general features of marketing strategies, the telling role will fall upon how well they are implemented. To this end it is the planning system that makes the difference between a well co-ordinated and effectively executed strategy and an ad hoc, poorly orchestrated one. Planning therefore fulfils a key function in helping to determine the outcome of strategies that are 'superficially' the same, and our research has indicated that within an industry the planning process can be more important than the strategy content. This finding supports the pioneering work into marketing effectiveness undertaken by Bonoma (1985) and recently explored by Piercy & Morgan (1991) in the context of marketing planning.

As a related issue, the study has also demonstrated the value of operationalizing the planning function as a multi-dimensional variable spanning an initiation and implementation stage. This approach serves two purposes - One: it accords with Mintzberg's notion of the evolution of strategy (almost in a Darwinian sense), and Two: it encompasses the progress of new product launch planning from its pre to post-launch stages. As a contribution to theory, this dual approach to planning research has two features.

First, it has been shown how an evaluation of the role of planning can incorporate an 'emergent' dimension much as Mintzberg has developed this concept for strategy formation, although it is our contention (embodied in the definitions developed in Section 3.3.) that we can only realistically term actions 'strategic' insofar as their has been prior planning.

Second, concepts from the corporate 'theatre' have been examined in detail at the operational level. But, as explained above, the process is of strategic importance, witnessed by the participation of the most senior company personnel. Consequently, this study helps bridge the gap between strategy and tactics.

8.4. LIMITATIONS OF AND IMPLICATIONS FOR FURTHER RESEARCH

In this Section the limitations of the research are first set out, from which follow the recommendations for further investigation.

8.4.1. Limitations of the Research

The limitations of the research are largely a product of the experimental process. The main concerns are set out below -

(i) The Sample: The population sampled was industry and nationality specific, focusing upon a particular category of firm (UK, publicly quoted, manufacturing, mid-sized and high-tech). Consequently, there must be some reservations regarding the applicability of the results beyond the domain of industrial marketing. This of course applies to the conclusions related to NPD launch planning as well as to their extrapolation to corporate planning practices.

Two sampling factors also help to explain why a positive association between planning, strategy and new product success was not found. First, the sample size was small. Ideally, a study of this relationship requires a larger sample - and future research should increase the sample numbers - possibly using a postal survey. Second, strategic variability is likely to be less in an inter as opposed to an intra-industry study, and it has already been observed that in our research the sample firms appear to be following an industry-wide strategy 'recipe'. To counter the problem a cross-industry experiment is required, and this is one area where a single industry sample does indeed restrict the general applicability of our results. As such, the acceptance of the null hypothesis should be interpreted prudently ie any relationship between planning, strategy and performance is 'not proven.'

(ii) The Research Design: This involved categorising each sample company's nominated new product launch into one of several groupings (eg 'better' or 'poorer') depending upon the product's relative performance on the dependent variable - 'the degree of commercial success one year after launch'. However, several research designs are possible and these have been evaluated by Maidique & Zirger (1984). The design utilised here followed that of Project SAPPHO (Rothwell, 1972) in which pairs of innovations (one successful, the other unsuccessful) were compared between companies - with the market held constant. This stands in contrast to the design adopted by Cooper (1979b) in Project NewProd. Here, success and failure was compared within each sample company ie the firms were held constant for each pair of innovations, with markets varying. Maidique & Zirger argue that the former design has led to a stress upon organisational factors as explanatory variables for success. Since the products are 'similar' in each comparison and the companies vary, organisational factors will be highlighted. The 'SAPPHO' design suited our research because the main focus was upon the planning process, largely dependent upon organisational factors. However, the secondary research focus of marketing strategy may be under-represented as a determining variable, and this could be a partial explanation of why strategy has been found to have a lower association with launch success. Developing Maidique & Zirger's argument - by keeping the firm constant in Project NewProd, Cooper emphasised the characteristics and associated strategy for each product.

In the light of these concerns the alternative 'Cooper' design could be undertaken. This would serve two purposes. (1) It would indicate whether the relative importance of planning and strategy was maintained and (2) it would help to clarify the methodological issue of 'between' and 'within' company studies in NPD research.

An additional consideration is the category of innovation studied. Findings related to a particular type of innovation (eg new segment / same channels, major technological enhancement) may not be applicable across the innovation 'spectrum'. Further, although it has been argued that the prior relationship with the customer (von Hippel, 1988) and the kind of merchandise transaction (Mathur, 1988) does not reduce the importance of planning, these factors could influence the style most appropriate for a successful outcome.

(iii) The Measurement Scales: Reservations must also be held regarding the nature of the measurement scales used in the study. By the nature of the research these were pioneering. Whilst relevant to the study objectives, it is always open to query whether analagous questions would yield similar results. Further, two of the composite scales in the planning process dimension of 'Sophistication' ('Plan Characteristics' and 'Flexibility') were novel and the literature did not suggest many supporting items. As such the resulting coefficient alpha measurement of scale reliability was low. This strongly suggests the need for a wider search to find more items to incorporate into these two variables - particularly that of 'Flexibility' which comprised three questions. This is because the notion of planning flexibility, as an integral component

of the process, is a recent addition to our understanding of the phenomena and is deserving of a more comprehensive investigation.

In addition, the 'classic' scales (Pugh et al 1968 & 69 and Johne 1982) encapsulating the 'formality' dimension are possibly too restrictive insofar as the 'monitoring & control' variable also incorporates several of the attributes associated with 'formality'. Consequently, greater consideration needs to be given to the balance between these two complementary aspects of planning and how they should be evaluated and reported.

8.4.2. Implications for Further Research

The boundaries to the thesis set out above naturally give rise to a continuing research agenda. Firstly, the study needs to be replicated across a range of industries with consideration given to varying such factors as company size and industry type (ie service versus manufacturing and low[er] tech versus high-tech).

Secondly, the research was focused upon a very specific aspect of planning (ie new product launch planning), although it has been explicit that the research draws upon and has relevance for the wider aspects of planning. However, this contention has yet to be tested in the wider corporate arena. In particular it seems especially worth while to test just how formal the planning process should be and the extent to which the degree of 'formality' is ameliorated by the other variables examined here. It follows that a study of the extended planning process, encompassing both initiation and implementation, bears further investigation.

Thirdly, a research design incorporating within firm successes and failures has conceptual merit, although the practical difficulties should not be underestimated. Such a design would create problems of finding respondents sufficiently familiar with comparable launch successes and failures.

Finally, additional studies would contribute to refining and expanding our understanding of the phases of planning and the types / variety of measurement scales most useful for capturing the nuances of the planning process.

8.5. CONCLUSIONS

In a concluding Chapter it is appropriate that the final Section consider whether the research has achieved its objectives. Briefly, these were to investigate an important aspect of marketing not previously studied in any detail, and through this study to make a contribution to marketing practice and theory.

The main purpose of the research was to improve our understanding of the type of launch planning most appropriate to the commercialization of new products. Part 2 of the research identified the importance of organic growth to high-tech companies and in particular the importance of a continuous stream of successful new products. It was shown that launch planning is a critical determinant of more effective product launches and this proposition formed the basis of the empirical study. An extended model of the launch planning process was developed and it was

hypothesised that more successful launches are associated with a more sophisticated planning process. In addition the model served to draw attention to the value of the realized marketing strategy as a determinant of success, and this contribution to launch performance was also evaluated.

Applying the model, it was found that significant planning differences existed between the 'more' and 'less' successful launches. Divergences in launch activities were also reflected, although to a lesser extent, in the realized marketing strategies of the participant firms. These differences have been discussed in this and the preceding Chapter and the implications for NPD launch planning practice evaluated. In consequence we would claim to have met the general aims of the study.

More specifically, the research has contributed to theory and practice in the following ways -

1. Theory

(i) The various phases in NPD are of equal importance, and it is wrong to single one out as having greater weight in determining the outcome of the process. This research has focused upon launch planning, and it has been demonstrated that planning is a significant contributor to early commercial success. No claim is made that it is the <u>most</u> important activity, rather, that it is one of a number of important activities, none of which should be marginalised.

(ii) The planning process is multi-dimensional, but two clear factors emerge. Firstly, planning consists of a range of complementary and mutually reinforcing activities. In aggregate this has been described as sophisticated planning, and stands in contrast to the view of planning as simply formal and bureaucratic. Secondly, planning is a process that extends over 'initiation' (ie the development of a plan), and 'implementation' (ie the working out of the plan) phases. In other words planning does not end with the production of a plan. It extends into the environment, where the original plan is enacted, albeit with modifications. Iteration, change and renewal are therefore the hallmarks of effective planning.

(iii) Strategy plays a vital role, but the quality of implementation, predicated on planning, can go a long way to remedying deficiencies in a 'half-decent' product. This has been captured by incorporating ongoing features into the planning concept (eg monitoring & control and flexibility) and focusing upon the 'realized' strategy - what was actually done.

(iv) Whilst both launch planning and the realized marketing strategy are significant contributors to new product commercial success, planning is more important. Process has precedence over content. To employ the lyrics of a once popular song -

'It's not what you do, it's the way that you do it.'

2. Practice

(i) Firms can improve the commercial outlook for their new products by adopting **a more sophisticated launch planning process**. This incorporates a wide range of activities, and a few simplistic changes to a complex process will not suffice. As such, installing a formal planning system will not by itself improve launch performance. A degree of formality is necessary, but this must be allied to procedures designed to inform and open out the process to a wide range of stakeholders. Planning is interactive and whilst facilitation comes from the top, initiation resides at the bottom. By implication this engenders a longer term commitment to the product reflected in a concern to build sales rather than meet more immediate financial criteria. However, regardless of the objectives set they are only as good as the concern shown for their realisation, with the best performers paying close attention to post-launch monitoring and control. Inevitably this review will give rise to the need for some adaption to the original plans and the best launches are typified by a swift response to changing market conditions. However, because of the thoroughness of the earlier undertakings dramatic changes are an exception.

Their are no simple expedients for implementing an effective launch plan. However, a start can be made by checking through the summary of our main recommendations (section 8.2.1.) regarding **the launch planning process** -

a) * **Top management facilitates and supports launch planning.**
An active interest is shown.

b) * **One person should have clear responsibility for producing the plan.**
Directly answerable to a top manager.

c) * **Launch planning begins early, becoming formal about 70% of the way through the NPD process.**
It is ongoing and iterative.

d) * **Use is made of a wide variety of information sources.**
Internal and external - part of the MIS.

e) * **The planning process is moderately formal.**
Regular / frequent meetings. Notes kept, deadlines met.

f) * **A broad range of participants are involved in the planning.**
Inter-departmental contributions. External consultation.

g) * **The plan is a brief document - looking ahead into the second year after launch.**
Quantified objectives, market oriented.

h) * **Once completed the plan is widely circulated.**
'User-friendly' and tailored to the recipients needs.

i) * **Checks on performance are frequent and rigorous.**
A 'key issue' focus - customer satisfaction & competitors.

j) * **The plan is adapted in the light of post-launch circumstances.**
Fast changes to the unforseen - but not blind reaction.

(ii) An effective marketing strategy is borne of a sophisticated planning process. As such planning and strategy are inextricably interwoven. However, examining the strategy outcome separately shows that **a good strategy should be concentrated** for

maximum market leverage. To achieve this, successful firms pursue ambitious objectives, with funding that is both more generous and persistent than that of the competition. But this does not imply profligacy. Resources are allocated to the key 'mix' variables (identified during planning) and it is here that competitors are outspent. Additionally, the 'weight' of resources is enhanced by carefully targetting prospects capable of placing larger, repeat orders. Often they are themselves innovative businesses with whom the seller enjoys a good relationship.

Summarising the recommendations (section 8.2.2.) for **marketing strategy** -

a) * **Spend more on the launch than competitors BUT also be more persistent.**
Be ambitious, select carefully, invest sufficiently.

b) * **Invest in adequate manufacturing capacity to meet demand - and reflect this in continuing R&D spend.**
Update, extend and modify for the future.

c) * **Outgun the competition in the key marketing areas.**
'Pile-in' where it counts - especially on service.

d) * **Provide better customer value and let them know in their language.**
Develop value-added partnerships.

e) * **Concentrate on market niches with long term potential.**
But make sure the market will sustain the necessary sales.

f) * **Target larger, innovative firms.**
Preferably 'regulars' placing repeat orders.

The role of launch planning, and its outcome marketing strategy, in the early commercial success of new products has been the central feature of this study. Seeking to encapsulate the results of so complex a relationship is no easy task. However, in a 'nutshell' the conclusion of the research is that -

Planning pays, but - 'Success is in the detail'.

APPENDICES

APPENDIX 5.2.

A DTI BASED VIEW OF HIGH TECHNOLOGY INDUSTRY DEFINITIONS

There exist a wide range of criteria for defining a high-tech industry / firm. In this Appendix a brief review is undertaken of the work of Butchart (1987). His work is chosen because it reflects DTI thinking and is especially relevant to research devoted to UK quoted companies.

He starts from the premise that high-tech industries are vital for future economic growth. Unfortunately there are three main reasons why any definition is problematical -

(i) What aspects of an industry's operations qualify it as high-tech eg its products, processes, staff etc?

(ii) High technology is a moving target eg when did the steam engine cease to be high-tech?

(iii) Making international comparisons. Is this feasible?

In his review, Butchart utilises four main sources. These are set out overleaf. It can be seen that a range of complementary variables have been adopted by a variety of respected authorities - although differences in interpretation could lead to the exclusion of certain industries eg 'environmental controls' specified by Thompson (1985) are not mentioned by the OECD (1986).

Table A5.2(a).

The Criteria Employed by Various Authorities to Define a High-Tech Industry

	USA			UK	OECD
	Premus (1982)	Thompson (1985)	Dpt. of Commerce	Dpt. of Trade & Ind.	(1986)
(a)	Above average R & D intensity.				
(b)	Above av. no. specialists.				
(c)	Science based.				
(d)			R&D of suppliers.		
(e)					* High dependence on technology & R&D.
(f)					* Strategic significance for government.
(g)					* Long development, rapid commercialization, rapid obsolescence.
(h)					* High risks and investments.
(i)					* High level of international co-operation.

However, with respect to electronics a consensus emerges, where 'electronics' includes electronic based equipment and components. In the UK the DTI have allocated the following SIC codes to the industries directly associated with the production of electronics merchandise -

UK SIC Code	Industry Description
3302	Electronic data processing equipment.
3443	Radio & electronic capital goods.
3453	Active components & electronic sub-assemblies.
3454	Electronic consumer goods & other electronic equip.

But it can be argued that Office machinery (3301), Telegraph & telephone apparatus & equipment (3341), Electrical instruments & control systems (3442) and Aerospace equipment manufacturing (3640) should also be included. The 'electronics' dividing lines are therefore fuzzy. Further, Worden (1986) has pointed out that the conventional R&D approach concentrates on producers and excludes those industries that incorporate / embody high levels of technology in their products and processes. Butchart (1987) addresses this problem. He defines any industry as high-tech where its ratio of R&D intensity to industry gross output is 20% greater than manufacturing industry's average of two percent.

Gross output is chosen because - (i) it is applicable to a wider range of industries eg. services and (ii) it is less effected by component sources eg. in-house, domestic or foreign etc. Additionally, this measure is mediated by the proxy high-tech measures of the relative proportion of scientists, professional engineers and technicians employed - although no specific ratio is quoted.

Fortunately this revised definition only makes a small difference to the UK electronics industry membership, with **'non-active electronic components' (SIC 3444)** added to the UK listing shown above. However, it should be borne in mind that Butchart is not concerned to define high-tech **electronics** industries and this remains a problem for the analyst. In the context of the research several other industries have therefore been added to the short list of industries explicitly designated as 'electronics'. The choice is a mix of 'field' experience and the

subjective, with the emphasis placed upon the 'degree' of electronics design work / componentry incorporated into the finished product. This approach is consonant with the general methodology of Butchart. Consequently all of the following 'industries' have been included in the population of FT quoted 'Electricals' companies from which the sample was drawn -

Table A5.2(b).

The Complete List of Electronics 'Related' Industries Included in the Sample

SIC	Manufacturing Industry Description
3301	Office machinery
3302	Electronic data processing equipment
3441	Telegraph & telephone apparatus & equipment
3442	Electrical instruments & control systems
3443	Radio & electronic capital goods
3453	Active components & electronic sub-assemblies
3454	Electronic consumer goods & other electronic equipment
3640	Aerospace equipment manufacturing
3710	Measuring, checking & precision instruments & apparatus
7902	Telecommunications

APPENDIX 6.3.3.

SCALES USED FOR THE DEPENDENT VARIABLE - COMMERCIAL SUCCESS ONE YEAR AFTER LAUNCH

These scales have been combined to produce a 'composite' dependent variable which measures new product commercial performance one year after market launch. The scores are amalgamated in a simple, linear additive fashion.

(i) Speed to Overseas Launch

|- Simultaneous with home launch and up to one month later
|- Over one to three months
|- Over three to five months
|- Over five to six months
|- Over six months

(ii) Percentage of Sales in Overseas Markets

|- 75% and over
|- 55% < 75 %
|- 35% < 55 %
|- 15% < 35 %
|- Less than 15 %

(iii) UK Market Share at the End of the First Year Following Launch. Measured relative to leading competitors.

|- Much greater. Clear market leader (2 times or more sales)
|-
|- About the same share. Joint leader
|-
|- Much smaller (< 25% of market leader)

(iv) First Year Sales

|- £1.5m and over
|- £1m < £1.5m
|- £0.6m < £1m
|- £0.2m < £0.6m
|- Less than £0.2m

(v) Months to Break-Even

|- Five months or less
|- Over 5 months to 11 months
|- Over 11 months to 17 months
|- Over 17 months to 23 months
|- More than 23 months

(vi) Addressed Market Size

|- £30m and over
|- £16m < £30m
|- £6m < £16m
|- £0.5m < £6m
|- Less than £0.5m

In each of these scales the uppermost 'graduation' is awarded five points down to one point for the lowest echelon.

The dependent variable score indicating launch performance for each of the sample launches was calculated as -

The sum of the 'absolute' results on the six dependent variable component measures after **conversion into scores out of five using the scales above**.

The calculations are shown in Table 7.2.1. on page 274.

APPENDIX 6.5(a).

Table A6.5(a).

THE 1989 POPULATION OF MID-SIZED, UK QUOTED ELECTRONICS MANUFACTURING COMPANIES FROM WHICH THE FINAL SAMPLE WAS DRAWN

POPULATION	Included in the Sample	Seniority of Respondent in SBU
A. B. Electronic	√	Project Manager
Alphameric	√	Mktng Manager
Apricot Computers		
B.S.R.	√	Commercial Manager
Bowthorpe Holdings	√	Director
Bulgin		
Cambridge Electronic Industries	√	Sales & Mktng Director
Cambridge Instrument Co.	√	Mktng Director
Case Group	√	Business Unit Manager
Cifer		
Circaprint		
CML Microsystems	√	Director
Continental Microwave	√	Director
Control Techniques		
Cray Electronics		
Crystalate Holdings	√	Director
Domino Printing Sciences	√	Product Mktng Manager
Druck Holdings		
Eurotherm International	√	Mktng Manager
Feedback	√	Director
Forward Technology Industries	√	Export Manager
Goring Kerr		
Highland Electronics Group	√	Mktng Manager
Klark Teknik		
Kode International	√	Mktng Manager
Lorlin Electronics	√	Mktng Manager
Microvitec		
Multitone Electronics	√	Mktng Manager
Newmark (Louis)		
Oceonics Group		
Oxford Instruments Group	√	Mktng Manager
Penny & Giles International		
Pericom	√	Mktng Manager
Polytechnic Electronics	√	Project Manager
Prestwick Holdings		
Psion	√	Business Manager
Radamec		
Real Time Control	√	Mktng Director
Renishaw	√	Product Manager
Rodime		
Scantronic	√	Mktng Manager
Sintrom	√	Mktng Manager
Sunleigh Electronics	√	Sales & Mktng Manager
Systems Reliability	√	Mktng Manager
TDS Circuits		
Telemetrix		
Thermal Scientific		
U.E.I.	√	Project Manager
Unitech		
VG Instruments	√	Sales & Mktng Manager
Zygal Dynamics		

Following the Financial Times re-classification / division (26/11/91) of its Electricals group of companies, it is of interest to compare how well the companies designated as 'electronics' in Table 6.5(a). overleaf correspond to the FTs new classification system. Of the 51 mid-sized manufacturing companies quoted in 1989, 27 (53%) have been designated electronics companies. Of the remainder, 12 (23%) are known to have been taken-over, four by parents now classified as 'electronics'. However, two of the most famous names - UEI and VG Instruments - have fallen to parents quoted respectively in the 'leisure' and 'health & household' sectors.

A further six companies (12%) that have remained independent are categorised in other sectors ie -

* 2 are classified as 'Other Industrial Materials'
* 2 are " " 'Electricals'
* 1 is " " 'Business Services'
* 1 is " " 'Hotels & Leisure'

Whilst this may seem a significant divergence between the classification system adopted in this research and the approach adopted by the FT, infact the discrepancy is largely explained by the post 1989 developments of the companies in question.

Finally, one business has gone into receivership and five businesses are no longer quoted.

More details are given of the sample companies experiences in Appendix 6.5(b). opposite.

APPENDIX 6.5(b).

THE MARKET DYNAMICS OF THE SAMPLE POPULATION

The electronics industry has experienced considerable upheaval during the few years in which this research has been conducted - especially the years 1989-91 in which the sample was selected, field-work undertaken and results written-up. Usually, such evidence is omitted from research studies although, as background, it can provide a valuable indicator of the stresses to which managements are subject. With this in mind, important changes reported in the press are tabulated below. The total of sampled companies was 35 (exploratory and main study), of which 14 are commented upon, 40 % of the total sample.

Table A6.5(b).

An Overview of the Reported Major Changes the Sample Companies Were Subject to Over the Period 1989-1991

Company	Commentary
Alphameric	1989; Alphameric plunges into the red. Consultants (including Rob Wilmot, former boss of ICL) are brought in to sort out the 'mess'.
BSR*	1989; BSR becomes Astec (BSR). Emerson Electric (of the USA) acquires a 45% stake. 1991; founder, Dr Daniel McDonald dies.
Cambridge Electronic Industries	A 'rag-bag' floated off by Philips UK in 1981. In 1990, sells (a management buy-out)) components businesses - which accounted for half of 1989 t/o. Reason - to focus on higher-technology. In 1991, enters bidding stakes for Tace (another sample company). July, wins battle for Tace.
Cambridge Instrument*	A high-tech phoenix. Saved by the NEB in 1975, withdrawn from stock-market in 1979 and turned private. Re-launched 1987, but again withdrawn in 1989 at the time of the merger with the Swiss group Wild Leitz. 1990; Company renamed Leica (of camera fame) and floated on the USM. July 1991, Stephen Schmidheiny (one of the world's richest men, owning 88% of the company) announces intention to take Leica private.
Case*	Taken over by the Dowty group in 1989.

Continued....

Company	Commentary
Circaprint	Falls into receivership in 1991 - following the decision in 1988 to build a new factory in N. Ireland at a time of buoyant demand. Unfortunately the market collapsed.
Continental Microwave*	1990; uncontested sale to Pharos Holdings a subsidiary of Nobel Holdings of Sweden. Two weeks later Pharos goes on to buy Spectra-Physics of the US from Ciba-Geigy of Switzerland. These deals triple Pharos turn-over!
Crystalate*	1989; the subsidiary interviewed is sold to the Japanese company Hosiden. A bitter takeover battle for Crystalate erupts in 1990. Crystalate ultimately opts for the bid by Vishay Intertechnology of the US. But the battle is won by the TT Group of the UK.
Goring Kerr (parent Tace)*	1990; the family holding 46% of parent Tace put it up for sale - it is bought by Jannock investments. 1991; first the founder chairman & then the board are ousted by institutional investors who claim the company should be 10 times larger! Cambridge Electronic make a take-over bid - winning the battle in July.
Pericom*	1990; Pericom agrees to be taken-over by its competitor Ferrari Computer Services. Previously, in 1989, Ferrari had also acquired Cifer, another quoted electronics company.
Polytechnic Electronics*	1989; agreed take-over by Peek. Subsequently Polytechnic's name changed to Navstar.
Sunleigh	1987; fails to acquire Dale Electric. 1990; appoints new chairman to undertake major restructuring. In future the company will focus on leisure products. The industrial electronics businesses are hived off into a new subsidiary called Hallamcrest - to be independently financed. 1991; Faulty components in a new product lead to 'exceptional' costs of £1.02m. (A similar problem plagued one of the products included in the sample!)
UEI*	1989; Carlton Communications makes an agreed take-over. 1990; The subsidiary interviewed is sold to Oxford Instruments. 1991; Carlton bids for two ITV Licences, winning Thames!
VG Instruments*	1989; Fisons concludes the year with a bid agreed by BAT, VGs majority shareholder. The FT (19/12/89) comments 'A chapter in the history of UK entrepreneurship was closed yesterday by a £270.2m recommended bid for VG Instruments, a leading scientific instruments company started 27 years ago by Mr Bernard Eastwell in a Sussex garage.

* Taken-over and / or name changed.
Sources: The Financial Times and Investors Chronicle.

Of the 35 mid-sized companies sampled it is a sobering thought that eight of them have been taken-over (23% of the sample) within a three year period. Whether this represents the efficiency of the stock market or the problems / deficiencies of the UK economy is beyond the scope of the research, although these findings are surely indicative of the pressures under which high-tech managers operate.

However, on the brighter side, 'only' one company has actually 'fallen by the wayside' ie gone into receivership.

1/1/90

INTERVIEW SCHEDULE

THE ROLE OF LAUNCH PLANNING IN THE EARLY COMMERCIAL SUCCESS OF HIGH TECHNOLOGY PRODUCTS

PARENT COMPANY NAME:

SUBSIDIARY OR DIVISION NAME:

RESPONDENT(S)	JOB TITLE	LOCATION	DATE

BUSINESS UNIT (for analysis purposes):

NEW PRODUCT NOMINATED AS A CASE EXAMPLE:

AVERAGE UNIT PRICE DURING THE FIRST YEAR:

LAUNCH DATE:

MAIN SECTIONS OF THE INTERVIEW SCHEDULE 2

1. DATA FROM THE STRATEGIC BUSINESS UNIT

INTRODUCTORY REMARKS

See Appendix A4

1.1. FINANCIAL PERFORMANCE

a) OPERATING MEASURES	Financial year 1988/89
Total sales £m	
% of sales from exports	
Total number of employees	
Sales employees	
Marketing employees	
Planning staff	
R&D staff	
Sales / employee	
b) PROFITABILITY MEASURES	
Net profit before tax	
Return on sales	

c) Would you provide an estimate of average volume sales growth per annum over the past 3 years (or since the SBU was established if this is less than three years)

Average annual volume sales growth _____%

d) In what year was the SBU established ?

1.2. PRODUCT / MARKET INDICATORS

a) In what product markets are you currently most active ?

b) What is the geographic location of your market(s) ?

UK_____	Japan_____
EEC_____	Other E. Asian_____
EFTA_____	S. America_____
COMECON_____	Africa_____
N. America_____	Other_____

Tick to indicate yes

c) How important is it to launch your new products internationally ?

|- Not at all important. We might not launch abroad
|-
|- We try too
|-
|- Very important. A top priority

d) Following launch about how long would you expect it to take until

(i) Sales peak_____years

(ii) Maximum market share is achieved_____years ?

e) How many major new product developments do you have going at the present time **ie** ones where development expenditure is expected to exceed £200 k ?

f) How many other product developments, or product updates do you have going at the present time ?

g) Within what range does expenditure on major new product developments fall

From £ 200 k to £_____?

h) Do you usually establish a distinct launch budget for a new product ?

i) What % of annual sales revenue do you typically spend on marketing/sales?

j) What % of annual sales revenue do you typically spend on R&D ?

k) What % of current total sales revenue comes from products introduced within the past 5 years ? 5

l) What % of current total sales revenue represents sales where you have a clear technological lead over your competitors ?

m) What is the current average annual growth rate (in volume terms) of the markets you seek to compete in ?

n) How many of the products launched in the past 5 years -

|- Failed at or soon after launch and were withdrawn _____
|- _____
|- Were moderately successful on most criteria _____
|- _____
|- Were very successful on all financial & sales criteria _____

1.3. DATA FOR THE NOMINATED PRODUCT

1.3.1. Control Variables

a) Excluding the final launch phase, RELATIVE to your other new product developments, how proficiently did you execute the product development process ?

|- Much worse
|-
|- About the same
|-
|- Much better

b) From the customers viewpoint at the time of launch, RELATIVE to leading competitors products, did the new product possess any unique advantages eg better design, more features, higher quality, customer cost reductions, additional product benefits etc ?

|- An inferior product
|-
|- About equivalent
|-
|- A superior product

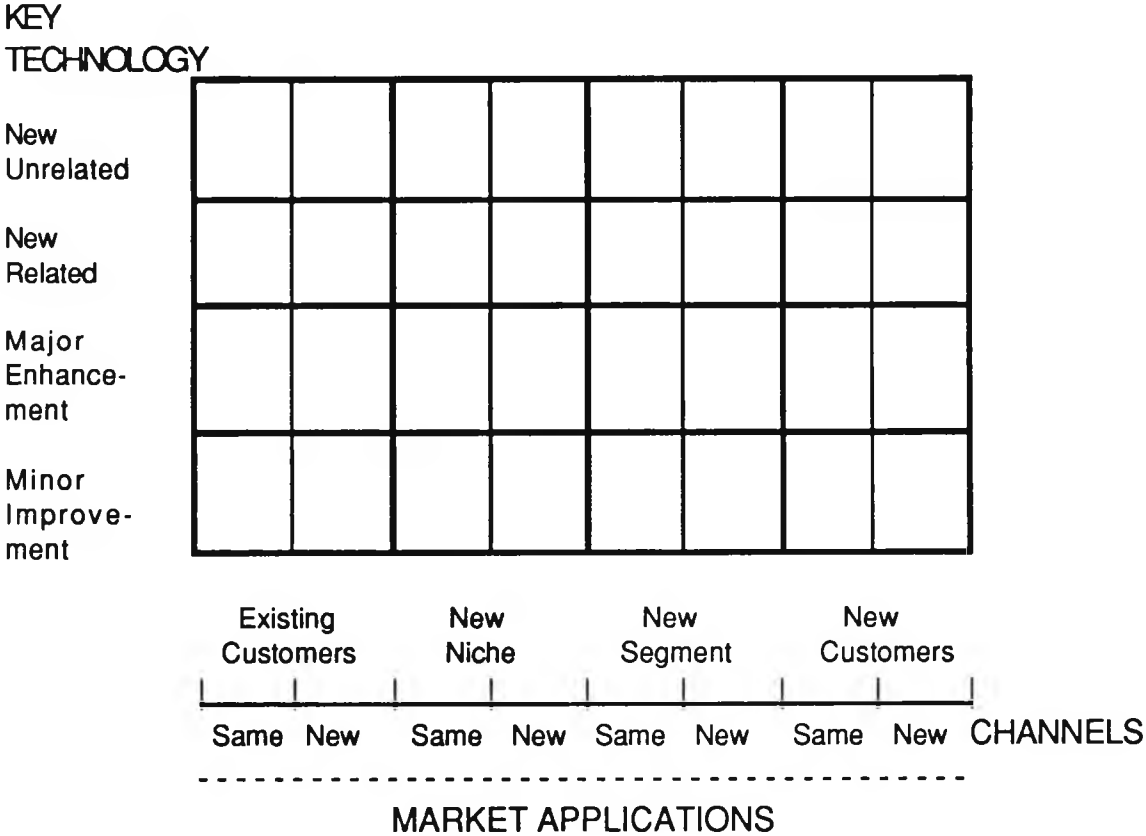
c) About how fast was the market growing in the first year ? 6

_____% per annum in volume terms

d) Approximately how many businesses were competing in the served market at the time of launch? Include your business in the total ?

|- 5 or fewer
|-
|- 11 to 20
|-
|- 31 or more

e) Would you place a tick in the appropriate sector of the box below to indicate the technology/market combination of the designated product -



f) How would you describe your order of entry into the market ?

|- Late entrant (competitors already established)
|-
|- Early follower
|-
|- Pioneer (first to market)

g) Approximately what % of this product's sales were to customers already served by the business ? 7

|- Less than 20 %
|-
|- Between 40 and 60 %
|-
|- More than 80 %

h) To what extent was this product handled by the same sales force and/or promoted through the same advertising and sales promotion programs as existing products ?

|- Less than 10 % of its marketing expenditures
|-
|- Between 40 and 60 %
|-
|- More than 80 %

1.3.2. Dependent Variables

a) Following UK launch how much time elapsed before introduction to overseas markets ?

Sequence of markets	Elapsed time (months) from UK introduction	Country
1st		
2nd		
3rd etc		

b) After the 1st year following launch, what % of the products total sales were made overseas ?

	At end of 1st year
% of total sales made overseas	_____ %

c) In the UK served market, RELATIVE to leading competitors, what was the products market share after the 1st year following launch ? 8

	End of 1st year
Much smaller (< 25 % of market leader)	|-
	|-
About the same share. Joint leader	|-
	|-
Much greater. Clear market leader (2 times or more sales)	|-

What was your estimated market share rank ? _____?

d) What were total product sales at the end of the first year ?

	FIRST YEAR	
	Total	Overseas
Value terms	£_____	£_____

e) How much time elapsed between the launch of the product and financial breakeven ?

_____ Months

f) How large was the served market, in value terms, into which you launched this product ? (Where the served market is a market in which potential customers will respond to any substantial marketing effort by either your firm or any competitor)

£_____m

1.3.3. Other Factors

a) How was the product distributed during the first year ? Show the approximate % through each of the following distribution channels ?

	Home Market Per Cent	Overseas Market Per Cent
Direct to end users (Own sales force)	_ _ _ _	_ _ _ _
Through distributors	_ _ _ _	_ _ _ _
Through agents	_ _ _ _	_ _ _ _
Other (state)	_____	_____
TOTAL	1 0 0 %	1 0 0 %

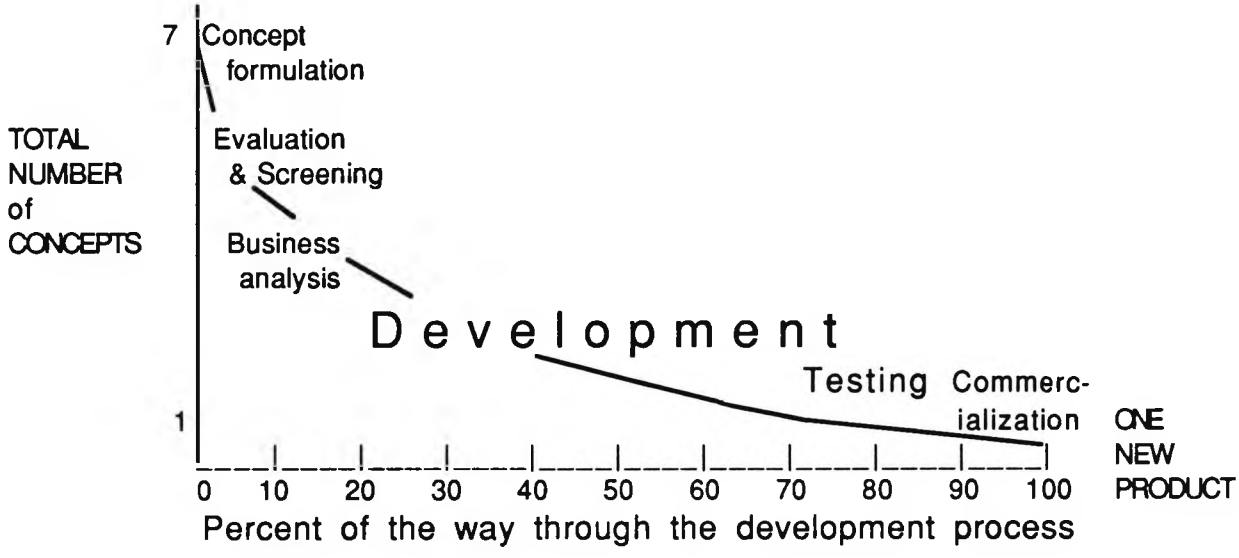
Please show a % for every line even if it is zero

b) Was an explicit Marketing Plan for the launch produced ? 9

|- It was implicit
|-
|- It was in note form
|-
|- It was a written document

c) Was a distinct Marketing Planning activity for the launch recognised ?

The diagram below indicates the main stages in the development process. Where applicable, indicate with an '**I**' where any **Informal** planning began, and with an '**F**' where any **Formal** planning began -



d) How big was the new product development team ?

2.THE MARKETING PLANNING PROCESS FOR NEW PRODUCT LAUNCH 10

Can we now consider how you went about planning the successful launch of the nominated product.

ALL ANSWERS SHOULD BE CHECKED AGAINST THE CASE EXAMPLE

The scales used have 5 divisions. An 'X' should be placed at the division which most accurately reflects your launch planning practice.

2.1. MARKET ANALYSIS FOR LAUNCH

a) Was any special market research commissioned to inform the marketing planning ?

|- No market research to aid planning was conducted
|-
|- Some general research was undertaken. It focused on UK customers
|-
|- Specific research was undertaken. It covered UK and overseas customers and competitors

Was any research done in house____or / and by an agency____?

b) Did the marketing planning have any inputs from product market testing?

|- Testing was inappropriate / not possible
|-
|- Customer trials / proto-type testing was undertaken
|-
|- As above plus trial selling / pre-launch test marketing was undertaken

c) To what extent were the following sources of information utilised in formulating the plan -

Importance	Marketing info. system (MIS)	Accounting system	Personal contact with superiors	Personal contact with subords.	Personal contact with outsiders	Outside public-ations	Inside reports	Outside studies
Not at all	|-	|-	|-	|-	|-	|-	|-	|-
	|-	|-	|-	|-	|-	|-	|-	|-
	|-	|-	|-	|-	|-	|-	|-	|-
	|-	|-	|-	|-	|-	|-	|-	|-
Very	|-	|-	|-	|-	|-	|-	|-	|-
OR - Not Applicable	___	___	___	___	___	___	___	___

2.2. FORMALISATION

11

a) Was a specific launch planning phase recognized in the NPD process - initiated by a clear decision to proceed ?

|- No separate phase was recognized
|-
|- An informal decision was reached
|-
|- A formally recorded (signing off) decision was taken

b) Was responsibility for producing any marketing plan clearly and definitely assigned ?

|- It was a shared activity. Responsibility was diffused
|-
|- There was no specific assignment of responsibility: it was understood
|- whose job it was
|- One person had clear and sole responsibility

If responsibility was assigned, to whom was it given _____?
AND to whom were they immediately answerable..... _____?

c) Were those involved in marketing planning given any specific guidance?

|- They exercised their own discretion
|-
|- There was an oral guide and written precedents
|-
|- There were clear written guidelines (eg a planning manual)

d) How closely were the procedures kept to in preparing the plan ?

|- Not at all
|-
|- Quite closely
|-
|- Very closely

e) Were explicit minimum standards of market performance set by which the product's launch could be judged ? 12

|- Performance criteria were judgemental and variable
|-
|- A degree of flexibility was allowed
|-
|- Clear minimum standards were established

f) How was the marketing planning process conducted ?

|- Mostly on an informal one to one basis
|-
|- Ad hoc committee meetings
|-
|- Plans were developed in formal committees

g) Were any notes kept regarding the progress of the plans ?

|- Informal notes were sometimes kept
|-
|- Formal notes were taken and issued as appropriate
|-
|- Formal minutes of meetings were distributed

h) How were the completed launch plans communicated ?

|- Orally
|-
|- As notes and orally
|-
|- In the form of a standard document

i) Following launch, how was the performance of the product reviewed ?

|- As and when the circumstances demanded
|-
|- On an occasions and informal basis
|-
|- On a regular and systematic basis

2.3. PARTICIPATION / INTEGRATION 13

a) How many company people were closely involved in the marketing planning _____? Were they all drawn from the product-development team _____? If not, from what other areas _____?

b) Were any outside 'bodies' involved / consulted when developing the marketing plan ?

|- Internal parties only
|-
|- Customers and distributors
|-
|- Customers, distributors and suppliers etc at home and abroad - They were partners

c) Was the launch plan guided by a wider corporate marketing plan ?

|- There was no other plan to fit into
|-
|- The SBU had an annual mktng plan. The launch was anticipated in this
|- plan
|- There was also a Group plan for new products. Both plans fitted together

d) Was top management involved in the marketing planning process ?

|- No. The project team were left to get on with it independently
|-
|- Top management took a lively interest
|-
|- The CEO took control

e) Which functional area had the greatest say over the marketing budget ?

|- Finance
|-
|- Finance and marketing/sales
|-
|- Marketing

f) How were the marketing plans developed ? 14

|- It was top down from senior management
|-
|- They were a collaborative effort between top mgt. and the project team
|-
|- It was bottom up from the project team

g) Which functional areas were closely involved in the marketing planning ?

|- Marketing OR sales
|-
|- Marketing, sales and R&D
|-
|- As above plus manufacturing and other(s) eg finance

Which functional areas had the greatest influence upon the development of the plan (Number in order of influence where '1' equals first etc) ?

Operations	**Sales**	**R&D**	**Marketing**	**Finance**	**Other**
_____	_____	_____	_____	_____	_____

and at what level of seniority where they represented ?

_____	_____	_____	_____	_____	_____

h) Which functional areas were involved in developing the communications program and product support literature ?

|- It was the job of marketing OR sales
|-
|- Marketing, sales and R&D
|-
|- As above plus manufacturing and others

i) Once completed, how widely circulated were the launch plans ?

|- They had limited circulation to marketing (and top management)
|-
|- To marketing, sales and manufacturing
|-
|- As above plus R&D and others eg finance

2.4. CHARACTERISTICS OF THE PLAN

a) Were objectives primarily qualitative or quantitative ?

|- The objectives were open rather than specific and numerical
|-
|- They were a mix of qualitative and quantitative
|-
|- Wherever practical they were tight and quantified

b) Were objectives predominantly financial or sales related ?

|- Objectives were predominantly financial eg profit related, break-even etc
|-
|- A mix of financial and sales related objectives
|-
|- Objectives were predominantly sales related eg sales volume, market share etc

c) What kind of market objectives were set for the new product ?

|- To match competitor sales
|-
|- To be the UK market leader
|-
|- To be the world leader

d) How long were the launch plans ?

|- Detailed and substantial (15+ pages)
|-
|- Of moderate length
|-
|- Brief (a few pages)

e) How far forward did the plans stretch ?

|- For the first few months after launch
|-
|- For about a year - including introduction overseas
|-
|- For several years, including product improvements, variants, new applications and follow-ons

2.5. MONITORING & CONTROL

a) Were formal inter-departmental meetings held to monitor the progress of the plans ?

	Pre - launch	Post - launch
None	|-	-|
	|-	-|
Quarterly	|-	-|
	|-	-|
Weekly	|-	-|

b) Following launch how often were performance variables checked ?

|- Variables were measured monthly or less often
|-
|- They were measured fortnightly
|-
|- They were measured weekly or more often

c) Following launch how many key performance variables were tracked on a regular basis ?

|- Many variables were monitored eg 10+
|-
|- A moderate number were monitored eg 6 to 9
|-
|- Few variables were monitored eg 5 or less

What were they?

d) Were checks made on customer satisfaction ?

|- We relied on customers contacting us
|-
|- The product and sales managers called on customers/distributors quite often
|- Frequent calls were made. Top management also called on customers and distributors

e) Were competitor reactions monitored ?

|- Information gathering was discretionary and adhoc
|-
|- Competitor monitoring was an occasional activity
|-
|- We formally and regularly evaluated their actions

f) In undertaking the marketing planning process were any formal control techniques used ?

|- Checklists
|-
|- Barcharts or milestones or gantt charts, Spread sheets
|-
|- PC based PERT / CPM methods, financial packages

g) Was use made of deadlines to control the planning and implementation process ?

|- Rather miss deadlines than force the pace
|-
|- Deadlines were flexible but generally adhered to
|-
|- Deadlines were always tight and rigorously adhered to

h) On what basis were launch expenditure and effort set ?

|- As a % of total marketing expenditure/effort
|- What we could afford/spare
|- As a % of expected product sales
|- Target % of competitor expenditure/effort
|- Objective and Task

i) When did the product's market manager become closely involved with the product development process ?

|- As the product was launched
|-
|- When the marketing planning started
|-
|- At the very beginning, at the project definition/concept formulation stage

Was the person responsible for producing the plan and the product's market manager the same person_____?

2.6. FLEXIBILITY 18

a) How closely did you stick to any launch plan during the first year ?

|- We followed it very closely
|-
|- We kept to the principles, some tactical changes were made
|-
|- Significant changes were made to our marketing strategy

Where changes were made did you follow previously formulated contingency plans ?

b) If necessary, how quickly could you react to changed market conditions?

|- We took our time to address changed conditions. Weeks rather than days
|-
|- We got going fairly quickly
|-
|- We moved very fast. Changes in tactics were working in days

c) How much power was delegated to the product market manager to make unilateral changes to the launch plan ?

|- Very little. Any changes had to be cleared with the marketing director
|-
|- Small changes were acceptable - financial and directional
|-
|- A great deal. Major changes were made, and justified later

3. STRATEGIES FOR NEW PRODUCT LAUNCH

In many of the following questions you are asked to estimate your firms RELATIVE level of expenditure. The estimate should be made relative to the average levels of the 3 largest competitors in your served market.

3.1. MARKET AMBITION

a) How would you rate the size of the MARKETING LAUNCH BUDGET RELATIVE to leading competitors in the market ?
'About the same' is defined as within + or - 1 % point; 'Much More or Less' means more than 5 % points more or less.

|- Much less
|-
|- About the same
|-
|- Much more

b) RELATIVE to leading competitors, how would you rate your PERSISTENCE IN EXPENDITURE to support the new product once the initial launch was over (ie over the first year) ?

|- Much less
|-
|- About the same
|-
|- Much greater

c) By the end of the first year how much of the TOTAL SERVED MARKET DEMAND could you have met ?

|- All of it (and more)
|-
|- About 60 %
|-
|- Less than 20 %

d) Following launch, how would you rate your ongoing expenditure on R&D RELATIVE to competitors ? 20

|- Much less
|-
|- About the same
|-
|- Much more

e) RELATIVE to leading competitors, what was the BREADTH of PRODUCT LINE that you created or that the new product joined ?

|- Narrower
|-
|- The same
|-
|- Broader

3.2. MARKETING EFFORT

a) RELATIVE to leading competitors in the market how do you judge LAUNCH EXPENDITURE on each of the following marketing variables ? In each case 'about the same' is defined as within + or - 1 % point; 'Much more or less' means more than 5 % points more or less.

	Sales force	Advertising media	Sales promotion	Dealer Support	Customer service/support
Much less	|-	|-	|-	|-	|-
	|-	|-	|-	|-	|-
About same	|-	|-	|-	|-	|-
	|-	|-	|-	|-	|-
Much more	|-	|-	|-	|-	|-

b) Prior to launch was any EARLY promotion / publicity sought ?

|- Trade shows were used
|-
|- Shows, conferences and trade press publicity
|-
|- As above plus technical seminars, industry experts / commentators, early/influential customers, consultants etc

c) As seen by your customers, RELATIVE to leading competitors, how do you estimate they rated your PERFORMANCE on the following factors? 21

	Delivery time	Sales service	Technical support	Repairs & maintenance	Complaint handling	Ordering/ billing
Much worse	|-	|-	|-	|-	|-	|-
	|-	|-	|-	|-	|-	|-
About same	|-	|-	|-	|-	|-	|-
	|-	|-	|-	|-	|-	|-
Much better	|-	|-	|-	|-	|-	|-

	Warranty	Technical literature	Product image/ Firm reputation
Much worse	|-	|-	|-
	|-	|-	|-
About same	|-	|-	|-
	|-	|-	|-
Much better	|-	|-	|-

d) As seen by your customers, RELATIVE to leading competitors in the market, how do you estimate they viewed the QUALITY of your product ? In assessing quality, the customers perceptions of both the intrinsic characteristics of the product (eg performance, features, reliability, durability, serviceability etc) and any associated services (eg delivery-time, warranties, application assistance etc) should be taken into account where these are important in the purchase decision.

|- Inferior
|-
|- Equivalent
|-
|- Superior

e) RELATIVE to leading competitors, estimate the AVERAGE SELLING PRICE of the product in the first year, where the weighted average of the 3 largest competitors = 100 % (eg. if this product's price averaged 5 % below those of leading competitors, enter 95 %)

Relative price in 1st year _____ %

3.3. MARKET FOCUS 22

a) Did you SEGMENT the served market ?

|- There was little opportunity for segmentation - little differentiation
|-
|- The total market was divided into several segments. We served one of them
|- We sold to a specialised niche market - there was considerable differentiation

b) To whom were EARLY SALES made ?

|- We sold to anyone - they were mainstream businesses
|-
|- We targetted more progressive firms
|-
|- We targetted those companies known to be innovative leaders. They were often our regular customers

c) RELATIVE to leading competitors what type of customer was the focus of your SALES EFFORTS ?

	Customer size	% of total market sales these customers account for	Number of customers	
Much smaller	|-	|-	- |	Far fewer
	|-	|-	- |	
About same	|-	|-	- |	About same
	|-	|-	- |	
Much larger	|-	|-	- |	Many more

d) About how many immediate customers accounted for 50% of product sales ?

_____Customers

e) Were REPEAT PURCHASES a feature of sales in the first year after launch?

|- Most sales were to one off purchasers (90 % or more)
|-
|- About half the purchasers bought only once
|-
|- Most sales were to repeat purchasers (90% or more)

4. DECISION VARIABLES USED IN THE PRODUCT LAUNCH PLAN

In this final section you are asked to rate the relative importance of each marketing plan variable used. Mark with an **'X' ON THE VERTICAL 5 POINT SCALE** the position that most accurately corresponds to the degree of importance. **THIS SHOULD REFLECT WHAT ACTUALLY WENT INTO YOUR PLAN.**

	Little or No Importance				Very Important
4.1. INTRODUCTION					
a) Time period of plan	|--	--	--	-- |	
b) People producing plan	|--	--	--	-- |	
c) Person responsible for implementing plan	|--	--	--	-- |	
d) Other	|--	--	--	-- |	
4.2 OBJECTIVES					
a) Market share	|--	--	--	-- |	
b) Profitability	|--	--	--	-- |	
c) Margins	|--	--	--	-- |	
d) Share of company sales	|--	--	--	-- |	
e) Other	|--	--	--	-- |	
4.3. MARKET DESCRIPTION					
a) Market size / growth	|--	--	--	-- |	
b) Volume by segments	|--	--	--	-- |	
c) Customers/users & other market participants	|--	--	--	-- |	
d) Competition - direct and indirect	|--	--	--	-- |	
e) Competitor strategies & marketing activities	|--	--	--	-- |	
f) Competitor likely responses to product launch	|--	--	--	-- |	
g) Distribution structure - attitudes & practices	|--	--	--	-- |	
h) Key environmental issues - seasonal/cyclical	|--	--	--	-- |	
i) Assumptions regarding changes in above	|--	--	--	-- |	
j) Other	|--	--	--	-- |	
4.4. TARGET MARKET(S)					
a) Customer location - home and abroad	|--	--	--	-- |	
b) Key customers	|--	--	--	-- |	
c) Purchase decision makers - key people	|--	--	--	-- |	
d) Other key influences on purchase decision	|--	--	--	-- |	
e) Product positioning relative to competitors	|--	--	--	-- |	
f) Other	|--	--	--	-- |	
4.5. PRODUCT DESCRIPTION					
a) Key selling features / benefits	|--	--	--	-- |	
b) Performance data	|--	--	--	-- |	
c) User reactions	|--	--	--	-- |	
	Little				**Very**

	Little or No Importance			Very Important
d) Comparison with & competitive product data.....	|--|	|--|	|--|	|--|
e) Future product developments.....	|--|	|--|	|--|	|--|
f) Extensions to the range.....	|--|	|--|	|--|	|--|
g) Other.....	|--|	|--|	|--|	|--|
4.6. STRATEGY				
a) Role of sales force.....	|--|	|--|	|--|	|--|
b) " " advertising and promotions.....	|--|	|--|	|--|	|--|
c) " " conferences, exhibitions & trade shows.....	|--|	|--|	|--|	|--|
d) " " industry experts, public relations etc.....	|--|	|--|	|--|	|--|
e) " " distributors / agents etc.....	|--|	|--|	|--|	|--|
f) Pricing policy (terms, deals, discounts etc).....	|--|	|--|	|--|	|--|
g) Service standards & technical support.....	|--|	|--|	|--|	|--|
h) Role of other dpts eg R&D, engineering etc.....	|--|	|--|	|--|	|--|
i) Other.....	|--|	|--|	|--|	|--|
4.7. FORECASTS AND BUDGETS				
a) Volume/Value of sales at home and abroad.....	|--|	|--|	|--|	|--|
b) Budgets broken down by marketing activity.....	|--|	|--|	|--|	|--|
c) Pro forma income and profit statements.....	|--|	|--|	|--|	|--|
d) Risks involved - sensitivity analysis.....	|--|	|--|	|--|	|--|
e) Summary of future capital expenditure.....	|--|	|--|	|--|	|--|
f) Other.....	|--|	|--|	|--|	|--|
4.8. TACTICS				
a) Sales objectives-training, calls, compensation.....	|--|	|--|	|--|	|--|
b) Advertising objectives - media frequency etc.....	|--|	|--|	|--|	|--|
c) Technical support.....	|--|	|--|	|--|	|--|

ETC

4.9. MONITORING & CONTROL				
a) Monitoring (with frequency) of key variables.....	|--|	|--|	|--|	|--|
b) Key market changes that could influence result.....	|--|	|--|	|--|	|--|
c) Contingency plans.....	|--|	|--|	|--|	|--|
d) Other.....	|--|	|--|	|--|	|--|
4.10. NON MARKETING SUPPORT ACTIVITIES				
a) Roles of R&D, engineering, purchasing etc.....	|--|	|--|	|--|	|--|
b) Other.....	|--|	|--|	|--|	|--|
4.11. EVENT SCHEDULE				
a) Timing of key activities/events.....	|--|	|--|	|--|	|--|
b) Other.....	|--|	|--|	|--|	|--|

	Little			Very

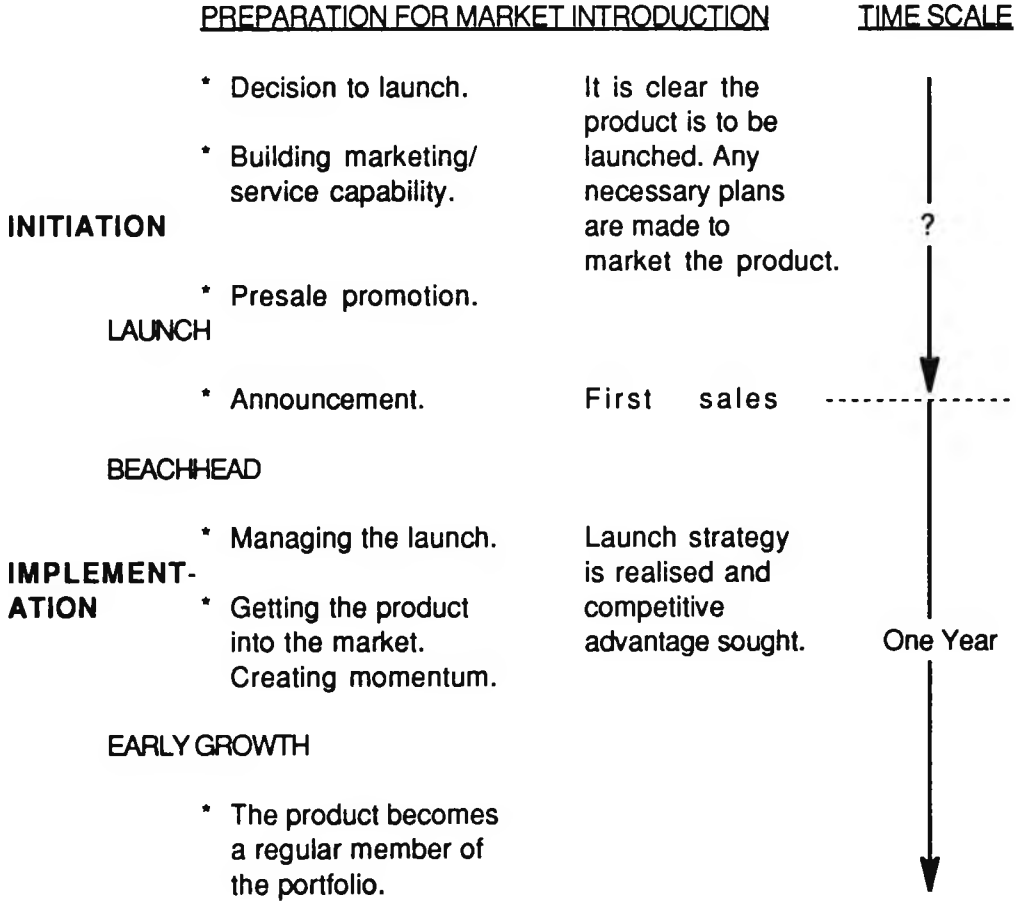
A.1. DISCUSSION OF LAUNCH

For the purposes of this research the launch stage is seen as the major element in new product commercialization. This '.. term refers to that phase of the new products process after management has decided to go to market. R&D may be finished; some rather complete business analysis has been concluded; and the firm will now commercialize the technology by actually manufacturing and marketing the product. The project may still abort, of course, but the commercialization decision is usually made just prior to major .... expenditure, so abort during this phase is expensive and highly undesirable. ' (Crawford, 1987)

The launch process has been divided into 2 components. Firstly the initiation component, during which any launch plans are made. This is essentially a period when marketing preparations are undertaken. Secondly there follows the implementation component. This is when those plans (whether explicit or implicit) are put to the test and the embodied strategy is realised.

The key elements of the launch process are shown below -

THE LAUNCH PROCESS



A.2. DEFINITIONS OF LEVELS OF COMPANY MANAGEMENT 26

Group Management = Parent company main board members, most notably the CEO

Division Management = Subsidiary company / Strategic Business Unit top management - could also be main board members

A.3. CORPORATE BACKGROUND

a) When was the business founded ?

b) When was the company incorporated ?

c) When was a USM quotation achieved ?
" " " full " " ?

d) What are the company's main product areas ? (Show SIC)

e) How many subsidiaries does the company have -
UK located ?
Overseas ?

f) In how many overseas markets does the company do business ?

g) What is the geographic location of the company's served market ?

UK_____	Japan_____
EEC_____	Other E. Asian_____
EFTA_____	S. America_____
COMECON_____	Africa_____
N. America_____	Other_____

Tick to indicate yes

h) Names of directors and company titles

i) Addresses and telephone numbers of UK headquarters and main UK subsidiaries

A.3.1. FINANCIAL PERFORMANCE OF THE PARENT COMPANY 27

	% growth	1989	1988	1987	1986	1985
OPERATING MEASURES Sales £m						
% of sales in overseas markets						
Total number of employees						
Sales employees						
Marketing employees						
Planning staff						
Sales / employee						
PROFITABILITY MEASURES Net profit before tax						
Return on sales						
Net profit per employee						
Share price						
EPS						
Return on equity						

A.4. INTRODUCTORY REMARKS 28

Thank you for agreeing to participate in this research. To start with I'll summarise the main points set out in my covering letter. As you will recall the study examines any marketing planning that firms might undertake for the successful launch of new products. To gather the necessary data I asked you to nominate as a case example an important new product that your firm launched between 1 and 3 years ago.

To gather the necessary information about any planning practices I propose to go through the questionnaire you see here. So let me say a little about it. It starts with some background information dealing with the business and the products and markets you deal in. This is followed by some 'tests' to ensure that the designated product is comparable to those nominated by other companies included in the sample. After this we get down to the questions dealing with various aspects of your marketing planning. Since planning is about strategy this is followed by questions concerning the launch strategy for the new product. Lastly there are some questions about the kind of decision variables you might use over the launch process.

As you will appreciate these questions are necessary for comparative analysis between the sample companies - BUT remember there are no 'right' answers, although they will be treated in the strictest confidence. I would of course be pleased to let you have the 'disguised' and pooled results so that you can compare your approach to that of other firms.

Finally, whilst I need your answers to the questions I am equally anxious to hear what you have to say. I've a great deal to learn - so please comment as we work our way through the questionnaire.

APPENDIX 6.6.1.

MEASURING CONSTRUCT RELIABILITY: THE COEFFICIENT ALPHA

The Cronbach coefficient alpha (α – otherwise known as the Cronbach alpha) is a measure of the internal consistency of a multi-item measurement scale. It produces the mean of all possible split-half coefficients from different splittings of the composite question - where any one split-half coefficient is obtained by comparing the results of half the component items in a multi-item measure with the results from the remaining half. The coefficient alpha was calculated according to the method set out by Peter (1979) in which -

$$\alpha = \frac{k}{k-1}\left(1 - \frac{\sum_{i=1}^{k} \sigma_i^2}{\sum_{i=1}^{k} \sigma_i^2 + 2\sum_{i>}\sum_{j}^{k} \sigma_{ij}}\right)$$

Where k equals the number of component items in the measurement scale and σ equals the covariance between item scores.

The 'Formality' dimension is used as an example of the calculation of a coefficient alpha. It is shown overleaf and is based upon the covariance matrix for the nine component items of 'Formality'.

The first step is to compute $\Sigma\ \sigma_i^2$ which is the sum of the item variances, the diagonal elements of the covariance matrix shown in Table A.6.6.1(a). overleaf -

Table A.6.6.1(a).

Lower Half Covariance Matrix for Nine Component Items to the Composite Independent Variable 'Formality'

	Launch	Respons.	Guidance	Sticking	Explicit	Use meet.	Use note	Commun.	Formality
Launch	1.39*								
Respons.	0.53	1.30							
Guidance	0.83	0.45	1.96						
Sticking	0.77	0.41	0.64	1.49					
Explicit	0.60	0.31	0.51	0.68	2.46				
Use meet.	0.68	0.64	0.49	0.92	0.53	1.69			
Use note	0.83	0.74	0.46	1.10	0.47	1.35	2.37		
Commun.	0.78	0.73	0.93	0.68	0.76	0.75	0.82	2.16	
Formality	0.40	0.93	0.40	0.64	0.76	0.51	0.87	1.06	1.85

* Underlined values are the item variances.

$$\sum_{i=1}^{9} \sigma_i^2 = (1.39+1.30+1.06+1.40+2.46+1.60+2.37+2.16+1.85) = 16.68.$$

The next step is to calculate two times the sum of the covariance items, the off-diagonal elements of the covariance matrix or -

$$2\sum_{i=1}^{9}\sum_{j=1}^{9} \sigma_{ij} = 2\ (0.53+0.83+0.77+0.60+0.68+0.83+0.78+0.40+0.45+ 0.41+031+0.64+0.74+0.73+0.93+0.64+0.51+0.49+0.46+ 0.93+0.40+0.68+0.92+1.10+0.68+0.64+0.53+0.47+0.76+ 0.76+1.35+0.75+0.51+0.82+0.87+1.06)$$

$$= 49.90.$$

Alpha can then be determined as -

$$\alpha = \frac{9}{9-1}\left(1 - \frac{16.68}{16.68 + 49.90}\right) = \mathbf{0.84}$$

Though no hard and fast rules have been offered for evaluating the magnitude of reliability coefficients (Peter,

[1979]), Nunnally (1967) suggests the following guidelines. In early stages of research, modest reliability in the range of 0.5 to 0.6 will do. For basic research, it is argued that increasing reliability beyond 0.8 is unnecessary because at that level correlations are attenuated very little by measurement error. In contrast, for applied settings, a reliability of 0.9 is the minimum that should usually be accepted and a reliability of 0.95 is the desirable standard.

Since the research is exploratory in nature (ie early stage), a coefficient alpha of 0.84 is more than satisfactory, and the scale is deemed to be reliable - subject to meeting construct validity criteria.

The results for all of the scales - major constructs and component elements - are tabulated below.

Table A6.6.1(b).

The Construct Reliability of the Composite Scales Used in the Research: Calculated Using the Coefficient Alpha

Construct	Coefficient Alpha	Significant? (Rounded)
PLANNING SOPHISTICATION	**0.89**	**Yes**
Market Analysis	0.73	Yes
Formality	0.84	Yes
Participation	0.69	Yes
Characteristics	0.48	Yes
Monitoring & Control	0.70	Yes
Flexibility	0.47	Yes
MARKETING CONCENTRATION	**0.81**	**Yes**
Market Ambition	0.52	Yes
Marketing Effort	0.79	Yes
Market Focus	0.63	Yes

Both the major constructs of 'Planning Sophistication' and 'Marketing Concentration' show a high degree of significance. For the contributory variables the levels are lower, but still acceptable in exploratory research. The reasons for these lower levels are two fold - (i) the number of items (questions) adopted for the contributory variables was relatively few and (ii) five rather than (say) seven point scales were used.

Research by Churchill & Peter (1984) has indicated that the more items in a construct and the more scale points, the greater the reliability. However, for our research, the literature only supported a limited number of items, whilst precedence and user friendliness suggested five point scales (more information is given in section 6.6.1.).

To some extent this argument is borne out by the high alpha coefficients of the two major constructs. By virtue of their composition (being the summation of the contributory elements) they contain a much larger number of items ie 'planning sophistication' has 37 and 'marketing concentration' has 28. However, these numbers are not unusual according to Churchill & Peter (1984).

APPENDIX 6.7.1.

THE LETTER SENT TO RESPONDENTS IN TARGET COMPANIES

Home number: 0273 28087
Work number: 0273 600900
ex. 2381

Marketing Director / Manager
Excellent Electronics PLC
Scitown
AA1 BB2

Dear Mr / Ms Marketing Director / Manager,

Re: CONFIRMATION OF APPOINTMENT TO DISCUSS THE LAUNCH OF INNOVATIVE NEW PRODUCTS

Following our recent telephone conversation I am writing to confirm our meeting, which we scheduled for -

Day, 00th month at am/pm.

As I said on the phone, I am researching this area to complete my PhD and as a means of gathering up to the minute material from a range of lively companies in the electronics industry. The study is non-commercial and is supported by the Centre for Business Research at Brighton Polytechnic Business School and the Innovation Research Unit at the City University Business School. Information gathered will be treated as strictly confidential.

Your company has been chosen because of its innovative record and growth potential. Pooled research results will be available to participant companies - in a suitably disguised form.

During our talk I wish to discuss how you go about planning for the launch of a new product and the subsequent marketing strategy. Some of the information sought is general but it will be invaluable if you nominate a reference product to serve as an example of a successful launch. Ideally this product would be typical of an important innovation for your company (not simply a

line extension) and launched between one and three years ago. Obviously one has to be realistic about these things, so a degree of latitude has been built into the study. If the actual plan (or similar) and promotional literature etc were available that would be wonderful !

I trust this doesn't sound too horrendous. In reality it's quite painless and the information required can be based upon guesstimates.

I shall telephone your office in the near future just to check that all is well, but if there are any problems please do not hesitate to contact me either on my work or home number. I look forward to meeting you.

Yours sincerely,

Paul Oakley.

(Senior Lecturer in Marketing)

	PRODUCT & MARKET DATA									PRODUCT / MARKET INDICATORS			
	STRATEGIC BUSINESS UNIT DATA												
COMPANY	Age	Sales	Sales growth	Overseas sales	Employees	Mkt/sales staff	R&D staff	Mkting staff %	R&D staff % of	Market spread	Importance of	Months to sales	Numbers of big
	Years	£m	%	%				all employees	all employees		overseas launch	peak	projects
AA	26	13	17	90	160	11	15	7%	9%	6	5	20	2
AB	11	15	10	70	240	22	20	9%	8%	8	5	30	3
AC	25	35	20	60	300	35	30	12%	10%	9	5	24	3
AD	12	35	20	85	500	38	50	8%	10%	10	5	60	6
A	10	31	56	50	300	28	33	9%	11%	9	5	30	2
B	22	7	23	80	140	12	22	9%	16%	8	5	30	0
C	11	29	100	40	250	22	17	9%	7%	8	5	24	2
D	12	38	81	78	600	36	60	6%	10%	9	5	54	2
E	15	207	25	75	1000	33	30	3%	3%	9	5	11	3
F	7	6	28	80	70	21	14	30%	20%	10	5	36	1
AVERAGE	15	41	38	71	356	26	29	10%	10%	8.60	5.00	31.90	2.40
G	19	21	0	72	440	30	110	7%	25%	10	5	24	6
H	16	19	30	20	250	27	12	11%	5%	7	5	24	1
I	20	10	17	35	200	18	4	9%	2%	7	5	24	3
J	12	18	43	10	85	20	25	24%	29%	3	5	30	3
K	10	10	0	30	320	15	8	5%	3%	4	5	84	3
L	9	27	0	20	820	15	27	2%	3%	4	5	36	4
M	12	7	33	3	90	8	15	9%	17%	7	2	14	3
N	15	8	18	65	110	10	5	9%	5%	10	5	36	0
O	22	12	9	2	55	33	4	60%	7%	2	2	4	2
P	15	8	67	60	120	15	15	13%	13%	7	5	42	2
AVERAGE	15	14	22	32	249	19	23	15%	11%	6.10	4.40	31.80	2.70
Q	33	15	0	15	560	8	15	1%	3%	7	5	24	2
R	20	5	0	80	120	11	10	9%	8%	10	5	42	9
S	6	10	17	0	88	39	3	44%	3%	1	0	60	0
T	10	9	30	80	294	5	18	2%	6%	9	5	72	4
U	17	5	0	2	130	7	14	5%	11%	3	4	24	0
V	30	7	3	66	242	25	20	10%	8%	9	5	12	1
W	20	92	17	15	998	75	150	8%	15%	10	5	2	4
X	1	2	10	13	50	6	4	12%	8%	6	4	15	0
Y	16	15	0	26	250	28	20	11%	8%	6	3	24	2
Z	29	5	25	35	300	2	2	1%	1%	8	5	72	0
AVERAGE	18	16	10	33	303	21	26	10%	7%	6.90	4.10	34.70	2.20
	Age	Sales	Sales growth	Overseas sales	Employees	Mkt/sales staff	R&D staff	Mkting staff %	R&D staff % of	Market spread	Importance of	Months to sales	Numbers of big
	Years	£m	%	%				all employees	all employees		overseas launch	peak	projects

									DATA FOR THE NOMINATED PRODUCT				
									Control Variables				
Numbers of small projects	Max project expend £'000s	Distinct launch budget	% Sales spent on marketing	% Sales spent on R&D	% of Sales from new products	% Sales with clear tech. lead	Desired mkt. growth rate	% of successful new products	Proficiency of NPD execution	Degree of prod. uniqueness	1st Year mkt. growth %	Number of competitors	Technology/Mkt combination
10	1000	Y	3	8	100	60	13	80	5	5	15	4	3/3
6	2000	N	16	10	75	30	10	75	5	5	10	5	3/4
3	2500	Y	18	7	85	67	6	85	5	5	6	5	3/2
20	1500	N	7	8	30	70	30	70	3	5	14	5	3/1
10	4000	Y	10	9	100	100	50	90	4	5	40	4	3/7
10	<200	N	4	10	83	0	25	75	3	5	75	5	3/1
10	500	Y	6	9	70	90	25	80	5	5	40	4	3/3
12	2000	Y	1	10	95	7	20	65	5	3	20	4	1/6
10	400	N	2	5	85	5	0	80	5	3	33	5	3/7
4	200	Y	15	10	80	35	15	65	5	4	13	4	3/5
9.50	1566.67	*Error*	8.24	8.60	80.30	46.40	19.40	76.50	4.5	4.5	26.6	4.5	*Error*
0	2200	Y	5	25	65	67	3	50	5	5	2	4	2/3
6	1000	Y	5	8	100	0	33	75	5	5	33	4	3/1
12	1000	N	9	3	95	20	?	63	3	5	17	4	3/5
0	1000	Y	7	8	80	45	40	45	4	4	15	4	2/3
27	200	N	12	4	30	15	12	80	3	5	8	4	2/5
6	1000	N	7	2	10	33	5	50	5	5	5	3	2/2
6	500	Y	5	11	95	20	27	50	5	5	50	5	2/5
5	<200	N	12	3	42	0	50	70	5	5	100	5	2/8
4	<200	Y	2	3	80	40	7	40	4	5	25	5	3/5
1	300	N	10	5	90	5	50	80	3	5	10	5	2/8
6.70	900.00	*Error*	7.35	7.17	68.70	24.50	25.22	60.30	4.2	4.9	26.5	4.3	*Error*
8	200	Y	5	13	50	30	13	30	3	5	33	5	2/7
20	500	Y	11	11	35	5	5	50	4	5	13	4	3/5
4	<200	Y	4	2	20	70	15	70	5	4	20	3	2/5
50	650	N	8	10	95	70	30	50	3	4	100	5	2/3
7	<200	Y	8	11	90	23	25	75	5	4	18	3	2/7
10	200	N	7	5	50	0	11	50	4	4	7	4	1/2
80	1000	N	3	9	50	0	20	45	5	5	50	5	3/4
2	≤ 200	N	7	5	80	50	15	40	5	5	17	5	3/5
2	1500	Y	3	9	80	0	0	90	3	4	50	4	3/5
4	<200	Y	1	2	12	0	5	50	3	4	50	3	2/3
18.50	675.00	*Error*	5.10	7.60	56.20	24.75	13.90	55.00	4.0	4.4	35.6	4.1	*Error*
									Control Variables				
Numbers of small projects	Max project expend £'000s	Distinct launch budget	% Sales spent on marketing	% Sales spent on R&D	% of Sales from new products	% Sales with clear tech. lead	Desired mkt. growth rate	% of successful new products	Proficiency of NPD execution	Degree of prod. uniqueness	1st Year mkt. growth %	Number of competitors	Technology/Mkt combination

			Dependent Variables										
Order of market entry	Sales to existing custs.	Usual mkting. resources	Months to over-seas launch	Scaled speed to overseas launch	% Sales in over -seas markets	Scaled % sales overseas	Market share	1st Year home sales £'000s	1st Year o'seas sales £'000s	Scaled total 1st year sales	Months to break even	Scaled months to break even	1st Year total mkt. size £m
5	3	5	0	5	75	5	4	1000	1500	5	2	5	45.0
5	1	5	0	5	75	5	4	1000	3000	5	3	5	15.0
5	5	5	0	5	78	5	5	1200	4300	5	18	2	15.0
5	5	4	0	5	90	5	5	60	540	3	10	4	10.0
5	1	5	3	4	41	3	3	10000	7000	5	10	4	150.0
5	5	5	3	4	90	5	5	28	250	2	4	5	0.6
5	4	4	3	4	38	3	5	500	300	3	10	4	20.0
1	2	1	3	4	85	5	2	90	510	3	12	3	35.0
3	1	5	0	5	80	5	3	40	160	2	20	2	62.0
1	2	4	1	5	50	3	2	300	300	3	9	4	17.0
4.0	2.9	4.3	1.3	4.6	70.2	4.4	3.8	1421.8	1786.0	3.6	9.8	3.8	37.0
3/4	2	5	0	5	75	5	1	130.0	390.0	2	24	1	65.0
2	5	5	5	3	63	4	4	30.0	50.0	1	4	5	5.0
5	4	3	12	1	23	2	3	8500.0	2550.0	5	12	3	100.0
3	1	5	18	1	0	1	3	5000.0	0.0	5	12	3	30.0
4	2	5	0	5	50	3	3	60.0	60.0	1	48	1	260.0
1	1	1	0	5	15	2	2	170.0	30.0	2	18	2	2000.0
4	3	5	2	4	6	1	1	4100.0	265.0	5	12	3	8.0
5	1	1	24	1	0	1	4	300.0	0.0	2	15	3	200.0
4	1	1	9	1	60	4	3	100.0	150.0	2	18	2	20.0
3	1	1	30	1	0	1	3	1000.0	0.0	4	12	3	8
3.4	2.1	3.2	10.0	2.7	29.2	2.4	2.7	1939.0	349.5	2.9	17.5	2.6	269.6
5	5	5	4	3	50	3	5	8.0	8.0	1	24	1	0.1
5	1	3	6	2	22	2	5	35.0	10.0	1	36	1	15.0
2	5	3	12	1	0	1	1	450.0	0.0	2	12	3	80.0
1	5	5	12	1	0	1	2	1000.0	0.0	4	15	3	4.0
3	1	5	12	1	0	1	2	500.0	0.0	2	21	2	200.0
3	3	4	6	2	17	2	2	350.0	70.0	2	20	2	2.5
5	3	5	9	1	10	1	2	275.0	30.0	2	12	3	8.0
5	3	5	9	1	15	1	1	128.0	22.0	1	20	2	50.0
3	4	1	9	1	20	2	1	80.0	20.0	1	18	2	2.5
1	1	5	4	3	0	1	1	100.0	0.0	1	36	1	0.2
3.3	3.1	4.1	8.3	1.6	13.4	1.5	2.2	292.6	16.0	1.7	21.4	2.0	36.0
			Dependent Variables										
Order of market entry	Sales to existing custs.	Usual mkting. resources	Months to over-seas launch	Scaled speed to overseas launch	% Sales in over -seas markets	Scaled % sales overseas	Market share	1st Year home sales £'000s	1st Year o'seas sales £'000s	Scaled total 1st year sales	Months to break even	Scaled months to break even	1st Year total mkt. size £m

										THE MARKETING PLANNING PROCESS			
										MARKET ANALYSIS FOR LAUNCH			
		Other Factors											
Scaled	Total	Home	Distribution	Overseas	Distribution	Explicit plan	Explicit planning	% way thru npd planning started		Use of mkt.	Use of mkt.	Range of information sources	
market size	Score	Direct %	Other %	Direct %	Other %	produced	recognised	Informal	Formal	research	testing	MIS	Accounts
5	29	100	0	0	100	3	Yes	15	75	5	3	5	2
3	27	100	0	40	60	1	No	5	95	1	3	1	1
3	25	60	40	60	40	5	Yes	0	75	3	3	2	1
3	25	10	90	0	100	5	Yes	10	30	5	3	4	2
5	24	50	50	50	50	5	Yes	5	65	4	2	2	2
2	23	100	0	20	80	1	No	25	85	2	4	5	2
4	23	0	100	0	100	5	Yes	10	70	3	3	4	2
5	22	50	50	0	50	5	Yes	15	50	4	4	3	4
5	22	90	10	90	10	4	No	35	70	4	3	1	1
4	21	100	0	15	85	5	Yes	25	60	5	3	3	2
3.9	24	66.0	34.0	27.5	67.5	3.9	"Error"	15	68	3.6	3.1	3.0	1.9
5	19	100	0	25	75	2	No	0	99	3	1	1	1
2	19	100	0	60	40	5	Yes	15	75	1	2	2	1
5	19	100	0	100	0	1	Yes	5	60	1	3	1	1
5	18	75	25	0	100	5	Yes	10	20	1	3	1	1
5	18	100	0	0	100	3	Yes	0	65	3	3	4	1
5	18	100	0	0	100	5	Yes	5	30	5	3	5	5
3	17	22	78	0	100	5	Yes	5	50	3	3	2	1
5	16	100	0	0	100	1	No	5	0	1	1	1	1
4	16	100	0	0	100	5	Yes	0	75	3	4	4	3
3	15	75	25	0	0	5	Yes	10	40	3	1	1	1
4.2	18	87.2	12.8	18.5	71.5	3.7	"Error"	6	51	2.4	2.4	2.2	1.6
1	14	25	75	0	100	3	Yes	60	90	1	3	1	1
3	14	100	0	0	100	3	Yes	50	87	1	3	1	1
5	13	30	70	0	0	5	Yes	60	70	2	2	3	1
2	13	100	0	15	85	1	No	5	10	1	3	1	1
5	13	100	0	60	40	5	Yes	5	20	1	3	1	1
2	12	75	25	0	100	5	Yes	50	80	2	3	1	2
3	12	100	0	0	100	5	Yes	5	15	4	3	4	1
5	11	100	0	0	100	3	Yes	10	80	2	3	3	1
2	9	100	0	100	0	5	Yes	0	65	1	1	1	1
1	8	92	8	8	92	2	No	40	90	1	2	1	1
2.9	12	82.2	17.8	18.3	71.7	3.7	"Error"	29	61	1.6	2.6	1.7	1.1
Scaled	Average	Home	Distribution	Overseas	Distribution	Explicit plan	Explicit planning	% way thru npd planning started		Use of mkt.	Use of mkt.	Range of information sources	
market size	Score	Direct %	Other %	Direct %	Other %	produced	recognised	Informal	Formal	research	testing	MIS	Accounts

									FORMALITY				
Superiors	Subordinates	Outsiders	Publications	Reports	Studies	Average info. sources	Average	Standard deviation	Launch phase recognised	Responsibility clear	Guidance in planning	Sticking to procedures	Explicit min. standards
4	5	3	5	4	5	4.13	4.04	1.10	4	5	3	5	5
1	1	1	1	5	1	1.50	1.83	1.35	3	3	1	3	1
2	4	5	5	5	2	3.25	3.08	1.48	4	5	2	2	3
4	3	4	2	4	4	3.38	3.79	1.26	5	5	4	3	1
1	3	3	3	1	5	2.50	2.83	1.49	5	5	2	4	5
3	5	5	2	4	1	3.38	3.13	0.92	5	5	5	3	5
4	3	5	4	4	3	3.63	3.21	0.85	5	4	5	5	5
4	5	5	3	4	2	3.75	3.92	1.18	5	5	4	3	5
3	3	5	3	3	5	3.00	3.33	1.06	3	5	2	1	5
5	3	4	3	2	5	3.38	3.79	1.32	5	5	4	4	4
3.1	3.5	4.0	3.1	3.6	3.3	3.19	3.30	1.20	4.4	4.7	3.2	3.3	3.9
1	3	1	2	1	1	1.38	1.79	1.37	1	5	1	1	1
4	2	4	3	2	2	2.50	1.83	1.49	4	5	2	3	3
1	1	5	3	3	5	2.50	2.17	1.25	3	5	2	1	1
3	2	5	3	4	2	2.63	2.21	0.97	4	5	1	3	5
1	3	5	2	2	4	2.75	2.92	1.57	5	5	1	3	5
5	3	5	3	1	2	3.63	3.88	1.58	3	5	2	4	1
5	3	5	3	2	3	3.00	3.00	1.58	5	5	2	5	3
1	3	5	1	4	1	2.13	1.38	1.52	1	1	1	1	5
5	1	5	2	5	1	3.25	3.42	1.32	5	5	2	3	5
2	1	5	5	3	3	2.63	2.21	1.06	3	5	3	3	4
2.6	2.2	4.5	2.7	2.7	2.4	2.64	2.48	1.37	3.4	4.6	1.7	2.7	3.3
4	3	5	4	1	1	2.50	2.17	1.35	4	5	4	3	3
1	3	4	4	3	1	2.25	2.08	1.65	5	5	5	3	3
5	4	3	3	4	2	3.13	2.38	1.25	5	5	5	4	5
1	4	4	1	1	1	1.75	1.92	0.85	5	3	2	2	2
3	3	5	1	3	5	2.75	2.25	1.07	3	5	2	3	5
3	3	1	1	4	3	2.25	2.42	1.32	3	3	4	4	4
5	3	5	3	2	3	3.25	3.42	1.20	5	5	3	2	4
4	2	4	3	3	1	2.63	2.54	1.79	3	5	1	3	3
1	5	5	4	1	1	2.38	1.46	0.53	3	1	1	1	1
1	2	2	2	2	1	1.50	1.50	1.58	3	5	4	1	2
2.8	3.2	3.8	2.8	2.4	1.9	2.44	2.21	1.26	3.9	4.2	3.1	2.6	3.2
Superiors	Subordinates	Outsiders	Publications	Reports	Studies	Average info. sources	Average	Standard deviation	Launch phase recognised	Responsibility clear	Guidance in planning	Sticking to procedures	Explicit min. standards

						PARTICIPATION / INTEGRATION							
Use of meetings	Use of note keeping	Communication standardisation	Formality of product review	Average	Standard deviation	Extent of consultation	Corporate plan guidance	Top mngt. involvement	Functional cntrl of budget	Plng. top down or bottom up	Areas involved in planning	Communications development	Circulation of plans
3	4	3	4	4.00	0.87	1	1	4	5	3	4	5	3
3	1	1	1	1.89	1.05	1	1	3	5	5	3	3	1
3	5	5	5	3.78	1.30	3	3	5	5	5	3	3	5
3	3	4	3	3.44	1.24	3	3	3	5	3	4	2	1
5	5	5	5	4.56	1.01	3	2	4	4	4	4	2	5
3	4	4	5	4.33	0.87	4	5	5	5	3	5	4	4
3	4	3	5	4.33	0.87	3	5	5	3	5	5	5	3
3	1	5	5	4.00	1.41	3	2	4	4	3	4	3	5
3	1	5	3	3.11	1.62	4	1	3	4	3	4	3	3
5	5	5	5	4.67	0.50	3	3	3	3	3	5	3	5
3.4	3.3	4.0	4.1	3.81	1.07	2.8	2.6	3.9	4.3	3.7	4.1	3.3	3.5
1	1	1	5	1.89	1.62	3	1	2	3	2	1	1	1
2	1	3	3	2.89	1.41	4	3	5	2	3	4	2	1
1	1	3	5	2.44	1.20	4	1	5	3	1	3	3	2
5	5	1	3	3.56	1.24	3	5	3	5	3	1	3	4
1	3	3	5	3.44	1.17	1	3	3	5	3	3	3	5
4	5	4	5	3.67	1.09	2	3	3	5	5	2	2	5
5	5	3	5	4.22	0.88	4	3	4	3	2	5	1	5
1	1	1	3	1.67	1.41	2	2	5	5	3	4	5	5
3	3	4	5	3.89	1.22	2	3	3	5	3	2	2	2
3	3	3	5	3.56	0.88	3	1	4	3	1	3	1	5
2.6	2.8	2.8	4.4	3.12	1.21	2.8	2.5	3.7	3.9	2.6	2.8	2.3	3.5
3	3	1	3	3.22	1.67	2	1	3	3	3	2	3	2
5	5	5	4	4.44	1.67	1	3	3	3	3	2	1	3
2	3	5	5	4.33	1.24	2	5	4	5	3	2	1	2
1	3	2	1	2.33	1.76	2	3	5	3	5	2	2	3
3	3	3	3	3.33	1.33	1	3	5	5	3	3	2	2
3	2	5	3	3.44	0.88	1	3	2	1	3	2	2	3
4	2	2	4	3.44	1.12	2	2	3	3	4	4	1	4
3	5	4	5	3.56	0.67	2	1	4	4	4	3	2	2
1	1	1	1	1.22	1.22	1	1	1	2	5	2	1	1
2	3	2	2	2.67	1.00	2	1	1	1	2	3	1	1
2.7	3.0	3.0	3.1	3.20	1.26	1.8	2.3	3.1	3.0	3.5	2.5	1.6	2.3
Use of meetings	Use of note keeping	Communication standardisation	Formality of product review	Average	Standard deviation	Extent of consultation	Corporate plan guidance	Top mngt. involvement	Functional cntrl of budget	Plng. top down or bottom up	Areas involved in planning	Communications development	Circulation of plans

		CHARACTERISTICS OF THE PLAN							MONITORING & CONTROL				
Average	Standard deviation	Objectives quantification	Types of objectives	Ambition of objectives	Length of plans	Futurity of plans	Average	Standard deviation	Frequ. of inter-dpt perf checks Pre-launch	Frequ. of inter-dpt perf checks Post-launch	Frequ. of checks	Nos. variables checked	Customer satis. checks
3.25	1.58	5	3	5	3	4	4.00	1.00	5	5	1	3	4
2.75	1.67	5	5	5	5	1	4.20	1.79	3	1	1	5	1
4.00	1.07	3	5	4	4	5	4.20	0.84	5	4	5	5	5
3.00	1.07	4	1	5	5	2	3.40	1.10	4	4	2	5	2
3.50	0.74	5	3	5	3	5	4.20	0.89	5	5	5	5	5
4.38	0.93	5	4	5	5	3	4.40	0.89	1	2	2	5	5
4.25	1.04	3	5	4	5	4	4.20	0.84	5	5	3	2	5
3.50	0.93	5	5	4	3	5	4.40	0.45	4	3	3	5	5
3.13	1.31	4	5	4	1	5	3.80	0.84	4	5	3	5	4
3.50	1.28	3	3	3	3	4	3.20	0.84	4	4	1	5	4
3.53	1.16	4.2	3.9	4.4	3.7	3.8	4.00	0.95	4.0	3.8	2.6	4.5	4.0
1.75	0.99	2	3	4	5	1	3.00	1.64	1	4	5	5	5
3.00	1.41	4	5	4	5	3	4.20	1.82	3	4	3	3	5
2.75	1.41	5	3	4	5	5	4.40	0.84	4	4	2	5	3
3.38	1.20	3	4	3	3	1	2.80	1.82	4	4	2	5	5
3.25	1.04	4	5	4	5	3	4.20	1.48	4	3	1	5	3
3.38	0.74	2	1	1	5	4	2.60	1.14	4	4	1	5	4
3.38	1.51	2	3	3	1	2	2.20	0.45	4	4	1	5	4
3.88	1.36	2	2	3	5	5	3.40	1.52	5	4	2	5	5
2.75	1.25	3	5	1	3	4	3.20	1.95	5	4	1	5	3
2.63	0.83	3	2	3	3	3	2.80	0.89	4	4	1	4	3
3.01	1.17	3.0	3.3	3.0	4.0	3.1	3.28	1.35	3.8	3.9	1.9	4.7	4.0
2.38	1.30	3	4	2	5	4	3.60	1.10	3	3	1	3	1
2.38	1.39	5	1	5	5	3	3.80	0.89	2	2	1	5	1
3.00	1.13	3	3	3	1	3	2.60	1.52	4	4	1	4	3
3.13	0.89	1	1	4	5	1	2.40	1.58	4	4	3	1	4
3.00	1.16	1	3	3	5	2	2.80	0.00	4	4	3	1	5
2.13	0.92	5	3	3	4	3	3.60	1.79	4	4	1	5	3
2.88	1.51	5	1	4	3	4	3.40	0.89	4	3	2	5	1
2.75	1.39	3	3	3	3	3	3.00	2.00	4	3	1	5	3
1.75	0.76	1	5	3	5	1	3.00	1.30	1	1	3	5	1
1.50	1.41	3	4	2	5	2	3.20	1.48	3	2	2	3	1
2.49	1.19	3.0	2.8	3.2	4.1	2.6	3.14	1.26	3.3	3.0	1.8	3.7	2.3
Average	Standard deviation	Objectives quantification	Types of objectives	Ambition of objectives	Length of plans	Futurity of plans	Average	Standard deviation	Frequ. of inter-dpt perf checks Pre-launch	Frequ. of inter-dpt perf checks Post-launch	Frequ. of checks	Nos. variables checked	Customer satis. checks

							FLEXIBILITY						
Competitor monitoring	Control techniques	Use of deadlines	Method for setting budget	Management continuity	Average	Standard deviation	Sticking to the plan	Speed of reaction	Extent of deleg. to prod. mgr.	Average	Standard deviation	Final Av. of Plng. Sophist.
5	3	5	5	4	4.00	1.33	3	5	4	4.00	1.00	3.88
1	1	2	5	5	2.50	1.84	2	3	3	2.67	0.58	2.64
4	2	3	5	5	4.30	1.06	3	3	5	3.67	1.15	3.84
1	3	4	5	5	3.50	0.67	4	1	3	2.67	1.53	3.30
4	5	5	5	3	4.70	1.83	2	5	3	3.33	0.58	3.85
1	1	5	5	3	3.00	0.95	3	3	2	2.67	0.58	3.65
5	1	5	5	3	3.90	1.52	4	5	3	4.00	1.00	3.98
5	3	5	5	5	4.30	1.15	4	4	3	3.67	2.08	3.96
2	3	3	3	5	3.70	1.18	5	5	5	5.00	0.58	3.68
4	5	5	4	4	4.00	1.35	1	5	4	3.33	2.00	3.75
3.2	2.7	4.2	4.7	4.2	3.79	1.29	3.1	3.9	3.5	3.50	1.11	3.65
3	3	2	5	5	3.80	1.06	3	1	5	3.00	0.00	2.54
4	1	3	5	4	3.50	1.25	3	3	4	3.33	2.31	3.13
5	3	5	5	5	4.10	1.07	4	1	4	3.00	1.53	3.14
1	4	3	5	5	3.80	1.43	4	5	2	3.67	1.53	3.23
3	3	5	2	5	3.40	1.42	1	3	5	3.00	0.00	3.37
5	3	4	5	5	4.00	1.49	1	5	5	3.67	1.15	3.53
3	3	3	3	4	3.40	1.17	2	5	4	3.67	1.15	3.31
3	1	5	2	5	3.70	1.57	2	5	5	4.00	1.73	3.00
2	2	5	3	3	3.30	1.52	2	2	2	2.00	1.15	3.09
4	3	3	5	5	3.60	1.56	3	5	3	3.67	1.73	3.08
3.3	2.6	3.8	4.0	4.6	3.66	1.36	2.5	3.5	3.9	3.30	1.23	3.14
3	4	5	5	5	3.30	1.40	3	3	1	2.33	1.53	2.83
2	1	4	2	2	2.20	1.10	5	1	4	3.33	1.73	3.04
2	3	4	5	5	3.50	1.10	2	3	3	2.67	1.53	3.08
1	1	4	5	4	3.10	1.48	3	5	5	4.33	2.00	2.87
3	3	3	4	5	3.50	1.16	3	5	1	3.00	1.15	2.98
1	1	3	3	5	3.00	1.32	4	1	1	2.00	2.08	2.78
3	3	4	3	3	3.10	1.27	1	3	4	2.67	0.58	3.15
3	3	3	3	5	3.30	1.69	2	2	4	2.67	1.00	2.97
1	1	1	3	5	2.20	0.74	2	1	3	2.00	0.58	1.94
2	1	2	1	2	1.90	1.18	3	2	3	2.67	2.00	2.24
2.1	2.1	3.3	3.4	4.1	2.91	1.24	2.8	2.6	2.9	2.77	1.42	2.79
Competitor monitoring	Control techniques	Use of deadlines	Method for setting budget	Management continuity	Average	Standard deviation	Sticking to the plan	Speed of reaction	Extent of deleg. to prod. mgr.	Average	Standard deviation	Final Av. of Plng. Sophist.

MARKETING STRATEGIES FOR PRODUCT LAUNCH													
MARKET AMBITION							MARKETING EFFORT						
Size of launch budget	Persistence of expenditure	Ability to meet market demand	Ongoing spend on R&D	Breadth of product line	Average	Standard deviation	Relative launch expenditure Sales force	Advertising	Promotions	Dealer support	Service	Average	Early publicity
3	3	2	2	5	3.00	1.22	2	2	3	2	3	2.40	4
1	3	3	3	3	2.60	0.89	3	1	1	3	3	2.20	1
4	3	3	5	5	4.00	1.00	4	4	4	5	5	4.40	5
5	5	3	5	5	4.60	1.41	5	5	5	5	5	5.00	2
4	4	2	4	1	3.00	1.30	4	3	2	4	5	3.60	2
5	5	4	2	5	4.20	1.22	3	1	4	5	5	3.60	5
3	3	4	3	4	3.40	0.55	3	2	2	3	4	2.80	5
4	3	1	3	4	3.00	0.84	4	3	3	5	5	4.00	3
1	2	2	3	4	2.40	1.52	1	1	1	3	3	1.80	4
1	3	1	2	2	1.80	1.14	1	2	3	5	5	3.20	5
3.1	3.4	2.5	3.2	3.8	3.20	1.11	3.0	2.4	2.8	4.0	4.3	3.30	3.6
2	2	2	4	1	2.20	1.14	1	1	2	2	1	1.40	3
4	2	5	2	5	3.60	1.34	5	4	3	1	3	3.20	3
1	5	1	3	4	2.80	1.64	3	4	4	3	4	3.60	3
3	2	2	1	4	2.40	0.89	3	1	3	3	2	2.40	4
2	3	1	3	4	2.60	1.67	3	3	4	2	3	3.00	3
4	1	3	1	3	2.40	1.41	3	1	5	2	5	3.20	4
5	4	1	4	2	3.20	1.79	1	5	4	5	5	4.00	3
4	4	4	4	5	4.20	0.45	5	1	3	5	5	3.80	1
1	1	5	3	3	2.60	1.48	1	1	1	5	3	2.20	4
1	3	5	1	4	2.80	1.58	1	3	3	3	3	2.60	3
2.7	2.7	2.9	2.6	3.5	2.88	1.34	2.6	2.4	3.2	3.1	3.4	2.94	3.1
2	4	2	2	5	3.00	1.14	2	3	4	2	3	2.80	3
3	3	1	2	5	2.80	1.79	3	2	3	5	4	3.40	4
3	3	2	4	4	3.20	0.89	4	4	4	3	5	4.00	3
1	3	3	4	5	3.20	1.10	2	1	3	5	4	3.00	1
1	3	1	2	3	2.00	0.89	2	1	3	5	3	2.80	3
2	3	1	4	5	3.00	1.48	3	2	2	1	4	2.40	3
2	2	2	3	4	2.60	0.84	4	1	2	3	4	2.80	3
1	3	2	3	3	2.40	0.89	1	2	1	3	4	2.20	3
1	1	2	1	3	1.60	1.10	5	3	3	3	3	3.40	1
3	1	1	1	3	1.80	1.00	1	1	1	1	4	1.60	2
1.9	2.6	1.7	2.6	4.0	2.56	1.11	2.7	2.0	2.6	3.1	3.8	2.84	2.6
Size of launch budget	Persistence of expenditure	Ability to meet market demand	Ongoing spend on R&D	Breadth of product line	Average	Standard deviation	Relative launch expenditure Sales force	Advertising	Promotions	Dealer support	Service	Average	Early publicity

Relative marketing support effort									Average	Relative	Relative	Customer	Average
Delivery	Sales service	Tech support	Repairs & maint	Complaints	Invoicing	Warranty	Tech. literature	Image/reput.		Quality	price	Value	
5	3	3	2	4	3	2	2	5	3.20	1.10	0.95	1.16	2.69
3	3	3	3	3	3	3	3	5	3.20	1.20	1.05	1.14	1.89
5	5	5	4	5	3	4	5	5	4.40	1.20	1.10	1.09	3.72
2	4	5	4	3	3	3	4	5	3.60	1.20	1.00	1.20	2.95
3	4	5	5	4	4	4	5	4	4.20	1.10	0.80	1.38	2.79
5	4	3	3	3	5	3	2	5	3.80	1.00	1.50	0.67	3.27
3	4	4	4	3	3	3	4	4	3.50	1.20	1.00	1.20	3.13
3	4	4	4	3	3	3	4	5	3.60	1.10	1.00	1.10	2.93
3	3	4	4	3	3	3	3	3	3.20	1.00	1.00	1.00	2.50
5	5	5	5	5	5	4	5	4	4.80	1.20	0.75	1.60	3.65
3.7	3.9	4.1	3.8	3.8	3.5	3.2	3.7	4.5	3.75	1.13	1.01	1.15	2.95
2	2	3	3	3	4	3	3	2	2.90	1.00	1.00	1.00	2.08
5	5	4	3	5	4	3	2	4	3.90	1.10	1.00	1.10	2.80
3	3	4	3	4	3	3	4	4	3.40	1.00	1.10	0.91	2.73
2	5	5	4	3	3	3	4	5	3.70	1.00	1.15	0.87	2.74
2	3	2	3	3	3	4	4	4	3.10	1.20	1.08	1.11	2.55
5	5	5	2	5	3	3	3	4	3.80	1.20	1.00	1.20	3.05
4	5	5	4	4	3	4	5	5	4.20	1.20	1.07	1.12	3.08
5	5	5	3	5	3	3	5	5	4.20	1.20	1.10	1.09	2.52
3	4	4	3	4	5	3	2	2	3.50	1.20	1.00	1.20	2.73
3	2	4	3	5	3	3	4	5	3.50	1.10	0.70	1.57	2.67
3.4	3.9	4.1	3.1	4.1	3.4	3.2	3.6	4.0	3.62	1.12	1.02	1.12	2.69
2	3	4	4	2	3	3	4	4	3.20	1.20	0.95	1.26	2.57
3	4	3	3	4	4	3	4	4	3.60	1.20	1.35	0.89	2.97
4	4	4	2	4	3	3	5	4	3.60	1.10	1.10	1.00	2.90
3	5	5	5	5	4	4	4	5	4.40	1.20	1.05	1.14	2.39
3	4	4	3	3	3	3	4	2	3.20	1.10	1.15	0.98	2.49
3	4	4	3	3	3	3	3	4	3.30	1.10	0.95	1.16	2.46
3	3	3	3	3	4	3	3	5	3.40	1.00	1.10	0.91	2.53
5	3	4	4	4	3	3	3	3	3.50	1.10	1.50	0.73	2.36
3	3	4	4	3	3	3	3	4	3.30	1.10	1.00	1.10	2.20
4	4	4	3	3	3	3	2	4	3.30	1.00	0.95	1.05	1.99
3.3	3.7	3.9	3.4	3.4	3.3	3.1	3.5	3.9	3.48	1.11	1.11	1.02	2.49
Relative marketing support effort									Average	Relative	Relative	Customer	Average
Delivery	Sales service	Tech support	Repairs & maint	Complaints	Invoicing	Warranty	Tech. literature	Image/reput.		Quality	price	Value	

	MARKET FOCUS										
Standard deviation	Degree of segmentation	Early sales targetting	Relative sales concentration Customer size	Cust. mkt. import	No. of cust's	Average	No. customers with 50% sales	Extent of repeat purchase	Average	Standard deviation	Overall Av. for Concent.
1.21	3	5	5	5	3	4.33	6	4	4.08	0.83	3.26
1.03	1	1	3	3	3	3.00	40	1	1.50	1.00	2.00
1.78	3	3	3	3	5	3.67	240	4	3.42	0.50	3.71
1.69	4	2	5	5	5	5.00	10	5	4.00	1.41	3.85
1.33	3	3	3	3	4	3.33	6	5	3.58	0.96	3.13
1.84	5	5	5	4	5	4.67	10	5	4.92	0.17	4.13
1.58	3	4	3	3	3	3.00	300	5	3.75	0.96	3.42
1.28	4	4	3	3	4	3.33	6	4	3.83	0.33	3.25
1.35	3	5	4	5	2	3.67	4	5	4.17	1.00	3.02
1.59	5	3	3	3	5	3.67	20	2	3.42	1.26	2.96
1.47	3.4	3.5	3.7	3.7	3.9	3.77	64.2	4.0	3.67	0.84	3.27
1.02	3	4	3	3	2	2.67	10	3	3.17	0.58	2.48
1.20	5	3	3	4	1	2.67	30	2	3.17	1.29	3.19
1.24	3	5	5	5	3	4.33	20	4	4.08	0.83	3.20
1.43	5	4	5	5	5	5.00	3	5	4.75	0.50	3.30
0.96	5	4	2	2	2	2.00	10	2	3.25	1.50	2.80
1.28	3	3	2	2	5	3.00	3	5	3.50	1.00	2.98
1.41	1	2	4	4	5	4.33	5	2	2.33	1.41	2.87
1.71	3	3	5	4	1	3.33	25	3	3.08	0.17	3.27
1.27	5	3	3	3	3	3.00	5	4	3.75	0.96	3.02
0.82	3	2	3	3	1	2.33	5	5	3.08	1.34	2.85
1.23	3.6	3.3	3.5	3.5	2.8	3.27	11.6	3.5	3.42	0.96	3.00
0.88	3	3	3	3	1	2.33	10	5	3.33	1.15	2.97
1.41	5	1	3	3	3	3.00	46	1	2.50	1.91	2.76
1.33	4	3	3	4	3	3.33	30	4	3.58	0.50	3.23
1.62	4	4	3	3	3	3.00	20	4	3.75	0.50	3.11
1.03	3	3	3	3	3	3.00	8	5	3.50	1.00	2.66
0.95	2	1	2	2	2	2.00	180	3	2.00	0.82	2.49
1.11	5	3	5	4	3	4.00	30	3	3.75	0.96	2.96
1.21	3	4	3	4	4	3.67	12	4	3.67	0.47	2.81
1.33	3	1	4	5	3	4.00	4	3	2.75	1.26	2.18
0.96	3	1	3	3	3	3.00	13	1	2.00	1.15	1.93
1.18	3.5	2.4	3.2	3.4	2.8	3.13	35.3	3.3	3.08	0.97	2.71
Standard deviation	Degree of segmentation	Early sales targetting	Relative sales concentration Customer size	Cust. mkt. import	No. of cust's	Average	No. customers with 50% sales	Extent of repeat purchase	Average	Standard deviation	Overall Av. for Concent.

DECISION VARIABLES USED IN THE LAUNCH PLAN													
INTRODUCTION			OBJECTIVES			MARKET DESCRIPTION							
Futurity	Planning team	Responsibility	Market share	Profitability	Margins	Share of co. sales	Market size/ growth	Volume	Customers/ users	Competition	Comp. strats. and activities	Comp. response to launch	Distribution structure
3	4	3	5	4	4	3	3	3	4	2	5	5	5
3	3	3	5	5	5	5	5	3	3	5	5	3	3
5	1	5	5	5	5	5	5	4	5	5	4	3	5
5	3	3	3	4	4	2	3	4	4	1	1	1	4
5	5	4	4	5	5	4	4	4	4	3	3	3	4
4	4	2	1	5	5	3	5	5	5	3	2	2	5
4	5	5	4	5	5	4	5	5	5	4	4	4	3
4	4	5	3	3	5	3	5	4	5	5	5	3	5
3	3	5	5	5	5	4	5	5	4	3	3	3	2
4	5	5	4	4	5	3	4	3	5	5	5	3	5
4.0	3.7	4.0	3.9	4.5	4.8	3.6	4.4	4.0	4.4	3.6	3.7	3.0	4.1
5	5	5	5	5	4	4	3	2	5	4	3	5	1
2	4	4	3	4	4	3	3	4	4	4	4	4	3
4	5	5	3	5	5	3	3	3	2	3	3	2	4
5	5	5	1	5	3	1	3	3	5	5	1	1	4
4	2	3	2	4	5	4	5	4	5	4	2	2	4
5	5	5	2	3	2	2	5	3	4	1	1	1	1
3	2	5	1	5	5	4	4	1	3	5	5	4	4
3	4	2	1	4	4	3	4	1	2	1	1	1	3
4	3	3	5	5	5	5	4	4	3	4	3	2	5
5	2	3	5	5	5	3	5	3	4	2	2	2	4
4.0	3.7	4.0	2.8	4.5	4.2	3.2	3.9	2.8	3.7	3.3	2.5	2.4	3.3
5	3	5	2	3	3	4	3	3	2	4	4	3	2
1	1	1	1	4	4	2	3	1	1	3	2	3	1
3	2	3	4	4	4	4	3	4	4	3	3	3	5
1	3	4	2	4	4	2	3	3	4	4	2	3	3
2	1	1	2	2	2	2	4	4	3	3	2	2	3
4	4	4	3	5	4	5	2	4	2	4	4	2	2
5	5	3	4	5	5	2	3	3	5	5	3	3	3
3	4	5	2	5	5	4	4	4	5	4	3	4	4
3	4	5	3	4	5	3	3	3	3	4	3	4	3
5	5	3	2	5	5	3	5	3	5	3	2	1	3
3.2	3.2	3.4	2.5	4.1	4.1	3.1	3.3	3.2	3.4	3.7	2.8	2.8	2.9
Futurity	Planning team	Responsibility	Market share	Profitability	Margins	Share of co. sales	Market size/ growth	Volume	Customers/ users	Competition	Comp. strats. and activities	Comp. response to launch	Distribution structure

		TARGET MARKETS					PRODUCT DESCRIPTION					
Key environ. issues	Assumptions	Customer location	Key customers	Purchase decis. makers	Other key decis. influences	Product positioning	Key selling features	Performance data	User reactions	Comparison to comp prod data	Future product developments	Extensions to range
2	5	1	4	3	3	3	5	5	5	5	3	4
3	3	3	3	3	3	5	4	5	5	5	5	5
3	5	3	5	5	5	5	5	5	5	4	4	4
1	3	4	4	4	4	2	5	4	4	2	2	3
2	3	4	4	4	4	5	5	5	4	3	3	4
1	3	1	5	5	4	5	5	5	5	3	5	3
2	2	3	5	4	4	5	5	5	5	4	4	4
1	2	5	4	4	5	5	5	4	4	4	3	1
1	1	3	5	5	4	5	5	5	3	3	4	4
1	1	5	2	3	2	5	5	3	4	2	4	4
1.7	2.8	3.2	4.1	4.0	3.8	4.5	4.9	4.6	4.4	3.5	3.7	3.6
1	1	1	3	5	1	4	4	4	5	4	1	1
1	2	3	4	3	1	4	4	4	4	4	3	3
5	5	5	5	3	3	4	4	4	5	3	4	4
1	1	5	5	5	4	4	5	2	5	3	5	1
3	3	5	5	5	3	4	5	5	5	5	5	3
1	1	5	5	5	5	5	5	4	2	5	3	4
4	4	1	5	2	3	5	5	5	4	5	4	5
1	1	3	3	1	1	1	4	4	3	1	3	4
1	3	1	3	4	3	5	5	5	5	5	4	4
5	5	3	5	3	3	5	5	4	5	5	4	4
2.3	2.6	3.2	4.3	3.6	2.7	4.1	4.6	4.1	4.3	4.0	3.6	3.3
3	3	3	4	4	3	4	3	3	4	3	2	1
1	1	3	1	1	2	3	4	4	4	2	3	3
2	4	2	4	5	4	3	3	3	4	3	4	4
1	1	1	3	4	4	3	4	3	4	3	3	4
3	2	4	4	3	3	4	4	4	4	3	3	3
3	3	5	3	2	2	4	5	5	2	3	2	4
3	3	3	5	4	4	4	4	3	4	5	4	4
3	3	4	5	5	5	4	5	4	5	3	4	4
2	2	3	5	5	5	5	5	3	5	5	5	5
2	3	2	4	5	4	2	4	4	5	5	4	4
2.3	2.5	3.0	3.8	3.8	3.6	3.6	4.1	3.6	4.1	3.5	3.4	3.6
Key environ. issues	Assumptions	Customer location	Key customers	Purchase decis. makers	Other key decis. influences	Product positioning	Key selling features	Performance data	User reactions	Comparison to comp prod data	Future product developments	Extensions to range

STRATEGY								FORECASTS & BUDGETS				
Role of the - Sales force	Ads. & promo.	Exibs. & shows	Ind. exps., PR	Distribs. agents	Pricing policy	Service stands. tech. support	Role of other departments	Volume/value of sales	Budgets	Income & profit statements	Risks involved	Capital spend required
5	3	4	2	4	3	2	3	4	3	1	2	4
3	5	5	3	3	3	3	5	3	3	3	3	3
5	5	4	5	4	3	5	5	5	3	3	2	5
2	2	4	2	4	4	3	2	4	3	2	3	2
4	5	4	4	4	4	5	4	5	4	5	4	4
5	2	4	2	5	4	4	3	1	2	5	5	3
5	4	3	4	4	5	5	4	5	4	3	4	3
3	5	5	5	5	4	5	3	5	3	3	3	3
5	4	2	2	3	3	5	5	5	5	3	3	4
5	5	4	1	5	5	5	3	4	2	5	4	2
4.2	4.0	3.9	3.0	4.1	3.8	4.2	3.7	4.1	3.2	3.3	3.3	3.3
5	3	4	1	5	3	5	5	5	1	4	3	1
4	4	2	3	3	4	4	2	3	3	2	2	1
4	5	5	3	3	4	5	2	4	3	4	4	5
5	1	1	3	3	3	5	3	5	3	5	5	1
4	4	2	4	5	2	4	4	5	2	4	5	3
1	5	5	5	1	4	4	3	3	4	3	3	3
4	5	5	5	5	4	4	5	4	4	3	4	3
1	1	1	1	3	4	4	3	1	2	2	2	4
5	4	4	2	5	4	3	1	4	4	4	4	3
4	3	3	1	2	4	4	2	5	3	3	1	1
3.7	3.5	3.2	2.8	3.5	3.6	4.2	3.0	3.9	2.9	3.4	3.3	2.5
3	3	3	3	2	4	3	3	3	2	2	3	4
3	2	3	1	3	2	3	4	3	1	1	1	1
5	4	3	4	3	4	5	3	4	5	3	4	4
4	1	3	1	3	4	4	4	3	3	4	2	2
4	1	2	2	4	4	4	3	3	3	2	2	2
3	2	5	4	5	5	4	1	5	4	4	2	1
4	4	5	2	2	3	4	5	4	2	3	4	2
5	5	5	5	5	3	5	4	5	2	3	3	2
3	3	4	3	2	4	4	3	3	3	2	2	2
2	3	3	1	5	2	3	4	5	3	4	3	2
3.6	2.8	3.6	2.6	3.4	3.5	3.9	3.4	3.8	2.8	2.8	2.6	2.2
Role of the - Sales force	Ads. & promo.	Exibs. & shows	Ind. exps., PR	Distribs. agents	Pricing policy	Service stands. tech. support	Role of other departments	Volume/value of sales	Budgets	Income & profit statements	Risks involved	Capital spend required

TACTICS			MONITORING & CONTROL			SUPPORT ACTIVITIES	EVENT SCHEDULE
Sales objectives	Advertising objectives	Technical support	Monitoring of key variables	Key market influences	Contingency plans	Role of R&D etc	Timing of key activities
3	3	4	3	5	3	5	3
3	3	3	3	3	3	5	3
5	4	5	4	2	1	5	3
3	2	3	2	2	3	3	5
4	4	4	5	5	4	5	4
5	2	5	3	4	2	5	5
5	4	4	5	4	3	4	5
3	3	3	3	2	2	3	3
4	3	5	5	4	4	4	4
5	4	5	3	3	3	5	3
4.0	3.2	4.1	3.6	3.4	2.8	4.4	3.8
5	2	5	4	1	3	5	5
3	4	4	3	3	1	3	3
4	3	4	5	4	4	3	5
5	1	4	5	4	1	4	5
5	4	3	4	3	2	3	5
3	5	5	3	5	5	4	3
2	5	4	3	5	3	4	5
2	1	4	4	4	3	4	3
3	3	3	4	3	2	2	5
2	3	3	4	4	2	2	5
3.4	3.1	3.9	3.9	3.6	2.6	3.4	4.3
4	3	3	2	4	3	2	2
1	2	3	1	1	1	2	2
5	4	5	5	4	4	3	4
4	1	4	4	2	2	4	2
4	1	4	4	3	2	2	4
4	2	2	3	2	2	1	5
5	2	4	5	5	1	5	5
5	5	5	4	5	2	4	2
4	2	4	2	2	2	2	3
4	4	4	5	5	4	4	4
4.0	2.6	3.8	3.5	3.3	2.3	2.9	3.3
Sales objectives	Advertising objectives	Technical support	Monitoring of key variables	Key market influences	Contingency plans	Role of R&D etc	Timing of key activities

APPENDIX 7.3.

KEY RESULTS

COMPANY	RANK	PLNG SOPH	MKTNG CONC	PLNG RANK	MKTNG RANK	TOP 33% PLNG	BTM 33% PLNG	TOP 33% MKTNG	BTM 335 MKTNG	TOP 50% PLNG	BTM 50% PLNG	TOP 50% MKTNG	BTM 50% MKTNG	TOP 50& PLN. RNK.	BTM 50% PLN. RNK.	TOP 50% MKT. RNK.	BTM 50% MKT. RNK.	EXTENT OF PLN	EXTENT OF MKT
AA	29	3.88	3.26	3	7	3.88	2.83	3.26	2.97	3.88	3.53	3.26	2.98	28	22	24	15	Complex	High
AB	27	2.64	2.00	27	29	2.64	3.04	2.00	2.76	2.64	3.31	2.00	2.87	4	20	2	11	Simple	Low
AC	25	3.84	3.71	12	2	3.30	3.08	3.85	3.23	3.30	3.00	3.85	3.27	19	10	29	25	Complex	High
AD	25	3.30	3.85	5	3	3.84	2.87	3.71	3.11	3.84	3.09	3.71	3.02	26	13	28	16.5	Average	High
A	24	3.85	3.13	4	12	3.85	2.98	3.13	2.66	3.85	3.08	3.13	2.85	27	11.5	19	10	Complex	Medium
B	23	3.65	4.13	8	1	3.65	3.15	4.13	2.96	3.65	2.83	4.13	2.97	23	6	30	14	Complex	High
C	23	3.98	3.42	1	4	3.98	2.76	3.42	2.49	3.98	3.04	3.42	2.76	30	11	27	7	Complex	High
D	22	3.96	3.25	7	14	3.68	1.94	3.02	2.18	3.68	2.87	3.02	3.11	24	7	16.5	18	Complex	High
E	22	3.68	3.02	2	8	3.96	2.97	3.25	2.81	3.68	3.08	3.25	3.23	29	9	23	6	Complex	Medium
F	21	3.75	2.96	6	18	3.75	2.24	2.96	1.93	3.75	2.98	2.96	2.66	25	11.5	12.5	22	Complex	Medium
G	19	2.54	2.48	28	27					2.54	2.97	2.48	2.81	3	5	4	5	Simple	Low
H	19	3.13	3.19	16	11					3.13	2.76	3.19	2.49	14	17	20	12.2	Average	Medium
I	19	3.14	3.20	15	10					3.14	3.15	3.20	2.96	16	8	21	9	Average	High
J	18	3.23	3.30	13	5					3.23	1.94	3.30	2.18	18	1	26	3	Average	High
K	18	3.37	2.80	10	23					3.37	2.24	2.80	1.93	21	2	8	1	Complex	Low
L	18	3.53	2.98	9	16													Complex	Medium
M	17	3.31	2.87	11	20													Average	Medium
N	16	3.00	3.27	21	6													Simple	High
O	16	3.09	3.02	17	14													Average	Medium
P	15	3.08	2.85	18	21													Average	Low
Q	14	2.83	2.97	25	17													Simple	Medium
R	14	3.04	2.76	20	24													Average	Low
S	13	3.08	3.23	24	13													Average	High
T	13	2.87	3.11	22	25													Simple	Medium
U	13	2.98	2.66	18	9													Simple	Low
V	12	2.76	2.49	26	26													Simple	Low
W	12	3.15	2.96	14	19													Average	Medium
X	11	2.97	2.81	23	22													Simple	Low
Y	9	1.94	2.18	30	28													Simple	Low
Z	8	2.24	1.93	29	30													Simple	Low

APPENDIX 7.4.1.

A REVISED ANALYSIS OF THE SIGNIFICANCE OF THE 'FORMALITY' VARIABLE WITH COMPANY 'AB' OMITTED

This additional analysis has been undertaken because company 'AB', although having the second highest 'new product launch' rating, had amongst the lowest scores on the independent variables 'planning sophistication' and 'marketing concentration' ie fourth and second from bottom respectively.

Analysis has indicated that launch planning 'formality' is not significant at the 5% level. Consequently it is relevant to investigate what the results would have been if a high performing, but 'maverick' company had not been included in the sample. This re-analysis for 'formality' is tabulated below -

Table A7.4.1(a).

The Significance of the 'Formality' Variable with Company 'AB' Omitted from the Comparison

Data File: DISAG TP/BT 33% MK 2 DATA
Independent Samples...

Variable:	Tp 33% formal	Bt 33% formal
Mean:	4.02	3.20
Std. Deviation:	0.52	0.94
Observations:	9	10

t-statistic:	2.33	Hypothesis:
Degrees of Freedom:	17	Ho: $\mu 1 = \mu 2$
Significance:	0.033	Ha: $\mu 1 \neq \mu 2$

The results show that (minus company 'AB') more formal

launch planning is significantly associated with early new product commercial success. For a one-tailed test it is significant at the 0.025 level (the 2.5% level). This result suggests that it would be wrong to conclude that a degree of planning formality is unnecessary, although relative to the other variables it continues to be less significant.

Pursuing the argument, it can be asked whether this reversal in hypothesis acceptance would be repeated for the other independent variables. An abbreviated 're-run' of the analyses undertaken in Chapter 7 is tabulated below -

Table A7.4.1(b).

Summary Showing the Statistical Association Between the Independent Variables & the Dependent Variable: Based upon a Comparison of the Top & Bottom One Thirds of the Sample: Without and With Company 'AB'

	Without Co. 'AB'		With Co. 'AB'	
VARIABLES	**Probability (1-tail)**	**Significant at 5% level**	**Probability (1-tail)**	**Significant at 5% level**
PLNG. SOPHIST.	0.0001	YES	0.0001	YES
a) Mkt. Analysis	0.0001	YES	0.0004	YES
b) **Formality**	0.0163	**YES**	0.0705	**NO**
c) Participation	0.0001	YES	0.0002	YES
d) Plan Charac.	0.0004	YES	0.0002	YES
e) Monit. & Control	0.0004	YES	0.0026	YES
f) Flexibility	0.017	YES	0.0258	YES
MKTNG. CONCEN.	0.0007	YES	0.0114	YES
g) Mkt. Ambition	0.0272	YES	0.0343	YES
h) Mktng. Effort	0.0012	YES	0.0139	YES
i) Mkt. Focus	0.0044	YES	0.0596	YES

Source: Appendix 7.2.

Inspection of the results shows that with the omission of company 'AB' only the conclusion regarding the variable 'formality' would have to be changed ie rejection of the null hypothesis and acceptance of the alternate hypothesis. In all other cases the results are the same ie the alternate hypotheses are accepted. But, it will be noted that in the case of 'Marketing Concentration' (and the contributory variables), without 'AB', the strength of the statistical association increases from 0.0114 to 0.0007. This result adds emphasis to the significance of the role of marketing strategy in securing new product early commercial success.

Overall, it can concluded that the results of the statistical analysis are robust. All statistical associations (bar one) are highly significant, with or without company 'AB'. Insofar as the formality of the planning process is concerned it is clear that formality cannot be abandoned and a degree of formality is necessary. Indeed, 'formality' seems to be more important than the complete results suggest, and it is only relative to the other planning variables that 'formality' pales somewhat.

In this situation statistical analysis has proved to be insufficient, with a clearer picture of the role of planning formality suggested by the comments of the respondents. These are set out in Appendix 8.2.(a).

APPENDIX 8.2(a).

THE RESPONDENTS 'VIEW':
A VERBATIM ACCOUNT OF LAUNCH PLANNING

Following the evaluation in Sections 7.3. and 8.2. of the major features of launch planning and strategy it is appropriate to allow the respondents to 'speak for themselves'. In this context quotes are drawn from the top ten performing firms (excluding company AB, the subject of a 'Mini-Case Study' in section 8.2.4.). These are designed to illustrate the key planning activities undertaken for the most successful launches. The responses follow the structure of the questionnaire, although there is a degree of variability to accommodate the more open aspects of the interviews. In this process the respondents comments are pulled together by the researcher to produce a coherent picture of the successful planning process.

The suffix to each quote indicates the source company, with their rankings shown in Appendix 7.2.

THE LAUNCH PLANNING PROCESS

Corporate Considerations

> Our planning's pretty good. As the company's grown .... it's become necessary. We need to make sure we approach the market, our customers in the right way. .... Yes .... I suppose you could say we're fairly 'sophisticated'.(b)

> A plank of our policy is that we must sell the product on a world-wide basis. It is part of our success and survival that we address the broadest possible markets.(b)

We have a new product committee. It's a formalised structure. It has regular meetings which are minuted. It has three standing members and one 'as available' member *(the MD, the marketing and engineering directors and the president of the US subsidiary)* Now they meet regularly and basically deliberate and make all the decisions as to the definition of the product, the timing of the launch and what resources will be allocated to each of the products.(b)

The actual business planning, we're not just talking about product and launch planning, is very formalised - extremely formalised.(b)

The Marketing Philosophy

We're a very heavily market oriented company .... very much a niche oriented company. We're a very nimble company .... very fast on our feet - and we can respond very quickly to individual requirements. Most of our competition - Siemens, Philips etc simply can't do that because they have a bureaucracy. They have ponderous structures which we don't have.(f)

Changing from a Selling to a Marketing Philosophy

In the past the emphasis has been on selling - getting the product and the company known in the market place. Now the name is established .... there is more of a need for marketing - and the distinction between the two is recognised.(c)

A Philosophy for Technology and Market Success

We don't have a technological lead .... we're on a par. But it's like Sumo wrestling. The're almost perfectly matched in weight, strength and skill - but the bout is decided purely in the mind, in the preliminaries. I think it's like that in business. You can have two companies that are matched on technology and all other things. But I think that if you operate with some very strong beliefs and some carefully worked out philosophies and you discipline yourself to stay within the boundaries you actually believe in - then I think you can succeed. Its not just a matter of technology.(b)

Pioneering

> When I said earlier we didn't have a technological edge - all our competitors have the same technology as we do. But that doesn't stop us being first.(b)

The Timing of Planning

> We started planning three & a half months before launch .... about 20% from the end. We left it so late in case the technology falls flat on its face - because there's nothing worse than hyping the market for something that never happens. .... If sales people hear about something too soon they may start to sell it before it gets built. Then it becomes an embarrassment.(aa)

Cultural Problems: Marketing's relations with R&D.

> Some difficulties working with R&D. Doing the brochures. In the past the product manager would state the specifications. Dealing with R&D directly - they are all arguing amongst themselves over what the specs. really are. Have to lay down some ground rules - going round to different people to get particular information. An interesting study in organisational behaviour.(e)

Market Analysis for Launch

> *We* use our MIS a great deal to evaluate what the opposition have. We do a lot of market research before we actually release the product .... and even before we develop the product.(aa)

> We have an MIS. I have a data base of all the machines we've ever sold - and what the're being used for. So we were looking at what 'x' had been sold for and what percentage of that market could be served by the 'x'. Because we were looking at and trying to estimate substitution.(e)

> Part of the job of the engineers is not only to promote the product and solve the customers problems and help in applications questions on the customers premises and generally act commercially. They are also fact gatherers, and

indeed we have quite a sophisticated marketing data base which is maintained almost entirely by the field sales staff. I can demonstrate it to you on the terminals here. .... Everyone of the sales engineers has a terminal which accesses .... the marketing data base and they update the information. So every contact, transaction, conversation, piece of mail, fax or letter which passes between us and anyone of our customers is recorded on the data base. .... We can keep track of all of our customers. What they do, what they want. And to me it is an important tool in assessing the size and importance of the market .... .(b)

Market research tends to be fairly informal in that we get on very well with our customers and it comes back very normally by word of mouth. But obviously right through the evaluation phase we are monitoring what people are saying.(c)

There was a combination of desk research .... Didn't actually do any customer interviews - which was unusual. .... A lot of desk research done on the penetration of this technology in comparison to other technologies addressing the markets .... . We also did a warehouse survey to check exactly what was being done to various products.(e)

So we have the applications scientists monitoring certain technical journals - watching what's going on for data and literature that's being published by competitors for various machines and seeing what their machines are actually doing. You can piece together the amount of data the're getting from certain substances and how good our machine is in comparison. So it's on going - watching the competition.(aa)

We use certain universities to monitor anything important that's coming up. Similarly, customers sometimes phone up - 'We've found a new way for this technique - are you interested?' We'd look at it, evaluate it. Give them (not a grant) but something for their time. If it's worthwhile we'll sign a contract.(aa)

The Accounting Department have been very positive with the customer data bases. They've been very much involved. The're very good at using all the customer data bases that we have

and doing a lot of work with us in setting up 'customer profiles' so that marketing can be much more focused in the kind of things we do.(ad)

As far as the overseas markets were concerned, we went out to get a lot of the information ourselves. We did physically get it ourselves rather than trying to buy it.(ad)

We made considerable use of customer contacts and outside publications.(ad)

We actually send out engineering samples to our customers for their evaluation. So part of the internal approval is the customer approval. So before this final process of committing the launch is approved we .... have external loops to go through.(b)

We've been working very closely with a variety of other companies to develop this product. Companies like Intel, Maxim, Texas Instruments, Microsoft etc. This is the first major use of .... developed by Intel.(a)

We used the mark one version two years earlier as prototype testing.(d)

Yes. We had one or two 'beta sites'. Customers who we could trust and we could say 'would you try this out for us'.(ad)

Once they were made, five were put out on field trials with existing customers.(e)

Yes. If we build a hybrid for someone and it becomes viable .... as a product we would review the data - through the system. *We* have our own applications scientists who run samples for customers. So they get a good feel for what customers are after - they get a machine first. They get to tell us where there are flaws in the system. Where it isn't as user friendly as it should be and so on. But sometimes what we do is where, if we have a training course or we have a lot of liason with universities, and we ask them to evaluate the machine over a two month period on a private basis.(aa)

Outside studies were very important. There are various City and European publications and reports you can .... buy, and we went out and bought them. We also had heavy contact with outsiders - through market research, professional institutes, European distributors and also established customers.(d)

So you have an evaluation period - where any technical difficulties can be ironed out. And it's also to check whether people are following the instructions when installing it. It was particularly important with this product (because it utilised a different technology) so the people had to actually install it differently .... being more careful than in the past.(c)

Normally we would show it to agents and distributors .... mainly to ensure they understand it. When you are selling something technical you need to be confident they are going to sell it on - backed up by as much knowledge as possible. So we would launch it to the distributors, accompanied by a press campaign, backed up by advertising in the trade press.(c)

Formalisation

I think the degree of mechanisation - I mean mechanistic behaviour - is a personal thing. And you are talking to one of the people *(the marketing director)* in this organisation who is very much in favour of it. But I must say there are one or two of my colleagues who say I go a bit over the top - a bit pedantic. And they say - "Everything is like a military operation to you" - and I say that's the only way to fight the battle. There are people who say there's no room for flair and intuition .... and I say yes, But! .... . So the picture I'm putting to you is not totally accepted. There are some of my colleagues, and indeed some of my subordinates, who do it in a less formalized way. It's part of the people mix that makes for a successful company.(b)

A launch stage is definitely recognised - because that's the 'evaluation' stage and the product manager has to agree the product is right for launch. Yes, there's a sign-off stage.(c)

There was a sign-off procedure. Assignment of planning definitely given to the product manager.(e)

A signing-off procedure. Oh yes .... I'll interject there .... We actually have very strict and thorough sign-off stages because the products are so very revolutionary. We don't want to put things out into the market place that are beneath "A's" quality standards. .... The chairman is involved at all stages.(a)

The plan is generally understood by everybody. We hold a meeting and the minutes from the meeting form the plan. Normally there is only one launch going on at a time - so we haven't to date had a proper 'formal' written launch plan. But that's something that will have to come in time as we develop a more formal marketing structure.(c)

Yes minutes are kept of the meetings and revised time-scales are produced if necessary. Notes might be kept - but we do try to minimise it - dealing only with the essential bits. It's dangerous to drown people with paperwork. It doesn't get read or it gets put in the bin.(c)

Two people *(the product manager and a member of the marketing department)* had clear responsibility for producing the plan. They were immediately answerable to the European sales manager.(d)

It's a formalized process. This *(the engineering design specification)* is raised for every product. So as you can see its a fairly formalised process in this company - launch date, the timing of everything.(b)

We can give you our launch manual - that tells you how to launch products properly. That's what we're writing right now - quite true. By March we have to have a launch manual written. .... There are three separate marketing groups working .... on the management manual. It's initiated by the main board.(c)

We have a document about introducing new products. *But* We don't have a blue-print marketing plan. We stick with it quite closely.(e)

There wasn't a manual. It was our own initiative - which we sold to the MD.(ad)

No formal guidance. A product would normally be assigned to a product manager who already has the back-ground and experience. We would rely upon his market knowledge and initiative - without being tied down or restricted. However a lot of information can come from - particularly 'the old boys network', phone calls and chats in pubs. Better to use this up-to-date experience than a report that is a year out of date.(d)

Those *(projects)* that get through have the same committee - it sets the time scales within an overall strategic framework. So really the marketing .... criteria for any product launch, which can be assessed at varying times after launch, are those criteria which were originally part of .... the justification for doing it in the first place. So we can always look back and say 'what did we say the market was .... etc.' And we do that very regularly. Most of what we do is very formalized.(b)

Basically ad-hoc - very sort of losely. Formal notes are definitely kept of the progress of the planning - and distributed.(aa)

Yes, there's a very formal discussion - there are minutes of the meeting. It's very formal with any engineer involved in construction or marketing right up to the MD - the're all there. Everybody is allowed to put their 'pennies worth' and views forward. And any drafts that have been done or billboard presentations will be reviewed at that meeting. Because something that we've acknowledged .... is that everyone working on a project, even down to the basic level of wiring, can come up with valid comments about how something is presented to them. A salesman or marketing man, somebody very close to the grindstone, might not see something that's very obvious. But somebody who sits back and says - 'you can't do that' - that imput is recorded. That's very much a portrait of how we view ourselves - as a body that we try to get onto every level from the scientist right down to somebody who's just accidentally walking past the stand or picking up the literature and saying 'I understand

what all this is about'. There's no point in writing what we call 'technical hieroglyphics' when you're trying to sell to someone who's just running a production line. You have to take everyone's view.(aa)

Not a lot was done around the table, but we appointed .... as a product manager with the specific task of launching this product - and he had to co-ordinate all the activities around us. The task of producing a marketing plan was clearly assigned.(ad)

Generally informal meetings, but they are minuted. There are pieces of paper that say this is our schedule. The overall co-ordination is basically done by me *(the marketing manager)* - in as much as all those promotional exhibitions and publishing functions have got to be co-ordinated with the activities of the field staff.(b)

Informally. We did gather together every so often. We tend to say 'can you get together tomorrow afternoon'. Otherwise it was over a cup of coffee. Informal notes were kept of progress.(d)

Occasional meetings with - the product manager, product planning manager and promotional people - not really formal - to discuss brochures, exhibitions, press launches etc.(e)

Format and Distribution of the Completed Plan

There's no standardised format, but a general pattern. Variations in our techniques and the methods we use by which we launch and promote new products change quite slowly.(b)

It's written - in note form, but relatively comprehensive. .... By a formal structured report produced by the marketing department. There was a standard document passed to people who 'needed to know'.(d)

Delegation

Launch is my job *(the marketing director)* but in fact I delegate most of it and do little day-to-day work. This is the

point. Everyone has got to know what they are responsible for. When people come into the job it's in their job specification - part of their mandate. He is responsible for this and this and he has authority for this and this. So it comes as no surprise when I tell him - 'Let's sit down and discuss the launch program'. He also knows he's authorised to make certain decisions and spend certain monies.(b)

Contrast Between R&D and Launch Planning Meetings

The R&D meetings are fairly formal. They are minuted and time scales are given to things and if they slip then people are worried. Yes that is formal. But for the launching into the outside world - then it's normally me *(the marketing manager)* and the product manager who are involved. .... Development is formal ... but planning is informal and adhoc.

Participation

We all tend to work very closely together anyway. We're still fairly small in terms of the numbers involved *(250 employees in the SBU - a little below average size).*(c)

We were in discussions for this product, sitting down with a major customer writing the specifications. So it was very much a joint effort. There was a little bit of back scratching going on. They helped us out, but they were going to get something out of it. They got the very first samples. There's favoured status for a little while for being such good friends.(b)

It certainly isn't only internal. It concerns both our customers and distributors. Let me give you an example. At a major German exhibition (last year) we used this opportunity to hold a seminar with all our world wide agents who could come. All of these people (about 30) either in personal contact or quite formalised meetings - they were all consulted. And increasingly the end user, we'll sit down and discuss the definition of the product, its economic justification, their part in it and the time scales - particularly important, the time scales. So I would say we use, consult, quite a lot of people outside.(b)

It's internal to the point where we get 'evaluation' and then customers and distributors are given the product to look at and evaluate.(c)

Yes. We talked to customers and distributors at home and abroad.(d)

The role of top management was crucial. It's a small board of directors and .... they could be closely involved.(a)

We only talked to advertising and PR. We weren't at all guided by a wider corporate plan. The corporate plan is solely concerned with 'bean counting' - consolidating the accounts for the Stock Exchange.(ad)

Top-down in as much as the granting of *permission* for market research, development and launch. *But* the execution of this was the total responsibility of the product group. They take, as we say, 'ownership'.(d)

Planning. It's a collaborative effort between top management and the project team. I think this is a result of the top management actually being quite close to the people who actually do it. We're not a big company. We don't have layers of management.(b)

Yes, the sales / marketing manager have responsibility for the plan. The're answerable to the group director or MD. .... *But* top management won't try and take over the launch. They will make their mark only if they feel we're going the wrong way. That's purely the only way they would get involved .... or for their experience, because a lot of them have been there a lot longer.(aa)

The CEO is interested in how the product is going. He does express an interest. He's not an office based CEO. He does get out and about talking to customers all the time. All the directors do show an interest because the're actively involved.(c)

The sales administrator was responsible for provisioning the sales department with the product. So he's the main interface between the sales department and manufacturing. He

schedules production. He matches the order intake with manufacturing on a week by week basis - and he's a marketing man. So we don't have a clear line between manufacturing and marketing. His efforts also must be co-ordinated in the launch plan.(b)

Nearly everyone who's involved in the project is involved with the planning. Because it's such a small group the chairman is elected. Seniority just goes. It's a free forum.(aa)

Marketing, sales and R&D were closely involved in the marketing planning. There are various things that will happen - Part and parcel of the plan is how you are going to train people .... your sales & service engineers. That was done on the basis that R&D did some of it and marketing did some of it. We did it by co-ordinating the various departments.(ad)

An important part of the launch process I didn't mention before is actually releasing it to the salesmen. The're given a thorough briefing. The product is presented to them at the beginning of the evaluation stage .... . So they are made party to what's expected of the product because they need to give us feedback.(c)

Technical manuals are a nightmare really. For some of our end-users - operators on the production line - are not as technically competent as our R&D people; obviously. So we started to use, two years ago, a communications consultant. If she can understand - she does the proof reading - it should be OK. We've introduced little pocket-books that are very simplified versions of the manual. It's an area we've looked into quite a lot. It's an ABC guide. It was quite a break-through for us to do something that simple.(e)

You've got to think carefully about how you produce your brochures and leaflets. You need different techniques. You've got to sell to the technical people who are going to install it and you've also got to sell to the end user. We're dealing with different publics.(c)

Communications are done by me *(the marketing manager).* I get the technical specifications from R&D and basically put

it into laymans language. If I can understand it anyone can .... you don't get bogged down in the technicalities. It has to be put in the customers language. So I translate the technical features into benefits. I always refer it back to R&D to make sure we're making honest claims.(c)

Marketing produced the literature in conjunction with product management. R&D were also involved, but not sales.(d)

Communication / Distribution of the Plans

It was an internal document circulated round most of the departments - especially for manufacturing and R&D.(ad)

The plans were disseminated orally - but the person in charge has an outline plan structure that is available.(aa)

Actual plans would have been *circulated*. The launch pack includes quite a lot of data. An information pack that was circulated to all our distributors and internally - marketing / sales, R&D, manufacturing and finance (an abridged version).(e)

Circulation is pan-European. It went to senior management, middle management, technical and marketing.(d)

Communications really come 'down' from the CEO - a marketing person. We have sales and marketing bulletins that are put out. He likes to communicate very regularly. I do with him an internal house news letter - *we* put things on the notice board etc.(e)

We have an applications laboratory which is part of marketing. There's a fair bit of technical liason. I think we're unusual in as much as having an engineer, an electronics laboratory .... acting as part of marketing. *The engineer* works on applying the product *and* in particular solving the customers problems. He produces reports that are sometimes published.(b)

Plan Characteristics

Our objective is a minimum of 25% growth per annum, and we grow in three ways -
Through innovation - beating the competition technologically and taking sales from them.
Geographically - by moving into new markets,
and growing with the market - although not increasing market share.
And we exploit every one *of these*.(b)

To be a world leader .... in our niche market .... and in that context we're the best.(b)

The objective was to consolidate our position and improve upon it - and help *(our)* European companies grow to become leaders in their own markets. To improve market share world wide.(ad)

From this office we always talk European. Naturally we would like to be European leader.(d)

Our objectives are quantitative - sales related - selling of so many machines - rather than profitability. To get an installed base. We have an overall objective to be a world leader.(e)

We set ourselves minimum and maximum targets.(aa)

We look forward two years - with product improvements and modifications.(d)

Length of the Plans

A few pages. It stretches forward at least a year - but doesn't include follow-on's and updates. That would entail a new project approval.(b)

The plan was ten pages long .... It stretched forward three years .... *including* value engineering. Many companies concerned to pull manufacturing costs down.(e)

Monitoring & Control

Advertising. That's very important. I look at conversion rates - that is from making an enquiry to ordering the product. You can have a response of 5000 enquiries from a well placed piece of media activity and yet you end up, because your conversion rates are so poor for some reason or another - the product doesn't quite 'cut-it'. Or we're not performing very well .... in the end it's only the fare paying customers who pay the wages. As far as I'm concerned the conversion rates are very important.(b)

It's monitored very carefully. The sales figures are evaluated every month. You'd look at the initial response. You'd be in touch with the distributors asking how it's going. The salesmen would be out there checking. We'd always check how easy it was to use, how easy it is to install. Whether the technical manuals, the installation guides are easily understood. There is an ongoing evaluation. .... Yes, we do customer satisfaction checks.(c)

Control Techniques

Oh yes. Bar charts, spread sheets. Especially R&D *with* PERT charts.(e)

Bar charts.(d)

We have formal meetings every two months after the launch. Someone from each department is present. So there's say six people per product line allocated to watch the market and the product and report back to their department .... .(aa)

Getting It Right First Time

We have the attitude that you - 'Have to release something that is right first time'. Now a lot of companies are tending to push things slowly onto the market in bits and pieces that don't always work 100%. With this *product* we ensured it was 100% on impact. Now the Japanese like that attitude. They went for it. It was a major success. *By delaying launch until the product was 100%* .... it cost us two machines *(sales)* in the short term but will gain us ten in the longer run. Word of

mouth in Japan is stronger than the literature and it's just the way they do business.(aa)

Design for Manufacture and its Impact Upon Flexibility

The only thing we did that was a bit unusual for this particular product was that the manufacturing techniques involved were totally new. This was the first product we'd ever produced that was designed for manufacture. The spin off from that was, surprise, surprise, that it was much easier to service. A whole load of other benefits came out. This was quite a big issue for marketing it internally.(ad)

Monitoring was undertaken regularly, systematically and under a great deal of panic. It was part of the monthly capacity meeting - which then became bi-weekly. It really became ridiculous. But it took off faster than anything we'd seen before. We'd predicted take-off for it which was based on the traditional sort of marketing curves. We thought we'd reach maximum numbers in about 18 months. The prediction was something like 4 or 500 per week after 14 months. After three months we were at 600 per week - and at that point we should have only been doing 150 - absolutely ridiculous! *But* because it had been designed for manufacture it wasn't a labour problem - it was a machine utilisation problem. We put on a night shift, recruited twilight shifts and we did weekend working and people beavered madly to put in extra machines.(ad)

Deadlines

Yes, very much. We will tend to keep to deadlines unless it is untenable. Unless we would do ourselves more damage than good by keeping to it. Deadlines are very important.(b)

The deadline was the exhibition and infact we had to go with a model .... because the products weren't ready. *But* the exhibition was held once every three years. More major than just a regional exhibition.(e)

We don't work to deadlines. It's flexible. We get there in a reasonable period of time.(d)

Yes we do try to stick to them fairly rigorously.(c)

How Important is Speed in NPD?

It is important to hit deadlines, but not at all costs. If you ended by saying we can hit the deadline all-right but we've got to spend an extra £1m to do it, otherwise you've got to wait two months, we'd probably wait two months. But it is important that when it does come out, it is right. And making sure that it is right is more important than meeting the deadline. If you meet a deadline by everybody cramming in all their time to making sure it is done and you miss something along the line then you've not gained anything.(ad)

It Doesn't matter how important an exhibition is, don't launch a product until it's ready. Here's an example. A US company introduced a product 'B' that replaced product 'A' - but 'B' was faulty. Customers would no longer buy 'A' because it was obsolete, but because 'B' didn't work potential customers switched to competitors.(ad)

They *(deadlines)* are seen by the MD as cast in concrete - 'This is what you will do'. But if at the end of - if people don't meet his criteria and there is some good reason why they do not, then there is no good reason for hitting people over the head. You just have to try and do your best.(ad)

If the R&D guys have goofed, fire the technical director. Don't launch the product. If you could say put in £x and get it in on time and that £x was less than the money .... *foregone* .... in that financial year - then it's worth paying it. But usually on these products you can't. It's not something that's quantifiable.(ad)

Following a reference to recent articles concerning Hewlett Packard's achievement in substantially reducing new product development times, the respondent said -

Hewlett Packard have got substantial facilities - hundred's of R&D people. With one little team of 30 they can double the number without materially effecting other projects. We just don't have that kind of flexibility. Usually it's equipment as well. Eg the way we develop software. If we've got a

software problem there's no way we can add any more people into a software team. We could have someone in advising - but once again there are only so many work stations.(ad)

You'd look at the feedback there before you launch it into the market place .... and if .... what happens there *suggests delay* we'd rather spend longer on the evaluation stage than launch something that wasn't quite right into the market place. But that should have been built into your planning of how long things were going to take anyway.(a)

Timing of the Involvement of the Product Manager

The product manager looks at it at all stages of development. Right from the beginning of the concept - because he's the feedback into R&D of what's required in the market place. So he's there monitoring that the're actually developing what's required at all stages. Don't let them get away with anything.(c)

The product manager was involved with the *planning* process right from the beginning. He also produced the plan.(e)

The product manager came in when the initial specifications of the instrument had been raised.(ad)

The product market manager *(responsible for producing the plans)* gets involved when we start pulling numbers - at the testing stage.(aa)

Customer Contact: the human dimension

Yes, very much so. We call on them. Yes, it includes top management (not the MD), but I do *(the marketing director)*.(b)

Well, at 'AA' its something they have been frightened of. But more and more it's something we've been getting on with. I'm a frequent caller on customers - but I know some product managers don't. But I think that's a changing view - because they have to now.(aa)

I call or fax *(fax because of the different time zones)* customers once or twice a month. .... It's a PR come servicing job.(aa)

Yes - there was a program of phoning up customers once a machine had been installed to analyse how well it was performing - how successful, any problems etc. We also have a quality feedback form which either the service person has to fill in once they've installed the machine, or the customer is sent - and they are supposed to return if the customer is doing their own installation.(e)

Competitor Monitoring

We monitor our competitors. What the're putting in the press. What advertising the're doing and what sales arguments the're putting forward. We definitely keep an eye on what the're upto. It's continuous. We're continually looking through journals. Each of the sales engineers have to produce a competitor activity report - based on what's going on with their own customers. Who the're coming up against. We get hold of any quotations or we'll buy a competitor's product.(e)

Yes - we monitored the reaction of competitors - not formally - at exhibitions.(ad)

Informal really. It was tied up with the project meetings .... the launch was part of this. We had a project management team that encompassed people from all disciplines. .... Oh yes, formally minuted.(ad)

Yes, inter-departmental, formally. The new product committee did it monthly prior to launch, and post-launch it was done quarterly at the group management board. Within the marketing department it would obviously be reviewed informally much more frequently with the product and marketing managers.(e)

Customer Visits By Senior Managers

Sometimes. The UK general manager visits customers weekly. Higher than that it's infrequently .... it's not good enough!(e)

Flexibility

I would have said it is so fast it hurts the company. Eg The West Coast of the US literally died over night. The Japanese market had always been there - but the whole marketing emphasis *had* suddenly to swing. We forced everything we had at that market. That is where we could see the money and get our hands on it! Changing markets quickly is very important to us.(aa)

Fairly flexible. We can make big changes if necessary. It's common. That possibility comes in because we pride ourselves in being able to react to market changes or market demand quickly.(d)

.... Fairly quickly. If it's something that's very important we would be issuing a marketing bulletin as to how to sell against this competitor and then obviously at the next sales meeting training them.(e)

Our approach is very flexible to meet market requirements and demand. If you tie yourself down too heavily to procedures that you must follow then you can be led down the path that perhaps you didn't want to go - and be blinkered by a change in your market that you might miss. Without having the flexibility with your own people and not just relying on the marketing department.(d)

Delegation

Total. I think the MD might have sat on me very hard if he didn't think it was right. Ostensibly he said I could commit the company to anything - and I was allowed to make one mistake!(ad)

A lot, including major changes.(d)

The Role of and Relationships with Manufacturing

Is Manufacturing Involved in Launch Planning?

Not manufacturing. Because 'D' is sales and marketing led and not manufacturing. So manufacturing is told what to build

and they build it.(d)

In the UK manufacturing is too far removed from the market. The approach and philosophy of management (and it's not the workers - it comes from top management) is too far removed.(d)

Once the product is actually launched .... then you get very closely linked in with manufacturing. But, at the same time *(in other companies)* manufacturing then start giving back problems they have. We can't meet the lead times. We can't do this and that. But going back to your original question - the difference between the Far East and Europe - it's called flexibility. Particularly in the UK. At 'D' we're better because we've adopted a lot of Far East and particularly Japanese technology development in manufacturing. We use things like Kanban systems, cell manufacturing and JIT. .... That's how 'D' works and it works well as part of a world wide manufacturing philosophy. If you talk to some of the UK or European suppliers of components about JIT they haven't a clue what you're talking about. A total philosophy - it's tough! That's where manufacturing planning comes into it and that's where sales then come into close links with manufacturing.(d)

MARKETING LAUNCH STRATEGY

Market Ambition

How do we go about our marketing? It's a process of bringing our resources to bear on the main pressure points in the market. We find this is the most efficient way .... but it's not hard sell.(aa)

To be honest we have trouble spending what I would consider to be enough money on marketing our products - taken in an overall context. It takes time to spend money wisely - so I'd rather not spend it. My concern is that perhaps we should devise ways of being more active than we are. We're successful - but I think we spend a low percentage. .... One of my theories is that if you're not doing too well you should

spend more not less.(b)

We're persistent, but we don't put on marching bands like the opposition. .... We launch strongly but not aggressively - as some of our competitors. We have a tendency to allow the reputation of a machine to carry its own weight.(aa)

We find that consistency and just keeping at it will pay at the end of the day.(d)

The Relative Role of R&D

Some US competitors have access to government R&D. We can't go to NASA like Elmer Perkin. Hence we have a higher expectation from R&D than they do. Because we have to have real think-tanks - whereas the Americans have a tendency to use what's available on the market. Don't know how American's develop new products. They use a different strategy from us. We work from first principles. They either commission people to do it for them (we don't) or ask to purchase a patent from somebody and then exploit that themselves.(aa)

Breadth of Product Line

In our particular area - much broader. Again, this is one of the reasons why 'B' succeeds. In our area we have by far the widest range of any company in the world .... dedicated to this particular area of *electronics*. Customers like it because it infers expertise in dealing with the problem. They treat us, in that particular area, as equals. They may be multinationals, but in this area they say we need some experts - and we know who the experts are.(b)

Marketing Effort

I'm not saying we overall, outspend the competition. But we do put extra resources into the areas we consider to be the most important.(ad)

Dealer support and Customer Relations

It was very extensive. That forms the biggest single effort in our sales activities. .... Again, we're very, very strong on customer service. We've got a good reputation. We tend to develop personal / professional relationships with customers. There's always a hot line .... *they* can always talk to our customer service managers.(f)

Launch Promotion

We Did quite a bit of PR. In the early stages of it we had quite a few magazine articles. We did a complete road-show around the country. We had a press launch which brought us lots of magazine editorial comment. We were asked if we would actually write articles on specific parts of the operating unit where it was unique. *We* Did a couple of seminars for 'Science'.(ad)

We do .... technical reports which are published in the technical magazines. That's our PR.(d)

We deal with consultants and use industry commentators - to spread the news. We use the press quite a bit actually.(d)

We don't use hard-sell like American companies. We don't try and ram it down their throats. You've got to pressure your customer - but not too much - if you over do it they'll go straight to the opposition. It's gently, gently tactics which we find works.(aa)

We can charge *(much)* higher prices because customers need to keep us alive.(b)

Trade Shows and Conferences

At the second major trade show - where we happened to dominate - 80% of all the instruments on show of that particular line were ours. And *on* every single stand where there was a competitors instrument - there was also one of ours.(ad)

If you talk about prestige things. I went to a prestigeous conference .... where I gave a paper based upon this product and the things it could do. Every single person at that conference who was giving a paper used our product. They all stood up and said we used this *(product)* because its the best .... around and we have specific requirements. Many prestige companies specify the use of our product. Whoever wins the contract - it doesn't matter - our product must be included.(ad)

We will release at a conference a snippet just to see if anyone picks it up. At a conference someone will give a paper in which our machine is mentioned - if you can get a reaction 'What machine'. Name dropping is used much more at seminars and conferences *(than it used to be)*.(aa)

We use trade shows as the actual launch date. Many shows have a conference attached - technical seminars, and we're very fond of actually submitting a paper on a new product being launched at the show. We try where possible to get into the quality press.(b)

Trade Shows: the iconoclast's view

We don't do exhibitions and shows. The're a waste of time and money. It's because we're dealing directly with our customers. I've never heard of anybody ever receiving or picking up an order from a trade show that was significant enough .... to repay the expenditure for that particular show. We used to do it - we used to spend a fortune. But when we looked at it we said - 'This is absolutely crazy'.(d)

Complaint Handling

We have quite rigid procedures for complaints to be handled. Whoever is the point of contact - they feed this into the system and it is co-ordinated by the MD. We're very strong.(f)

Ordering and Billing

Very good. We're right on top of that. They get an invoice either before they get the equipment, or when it goes through their door.(f)

Technical Literature: Understanding Your Customer

> *The technical literature is* .... Not very good - distinctly poor. But, the reason for that is we don't really sell on the basis of technical performance *per se*. Because we're generally selling to management and not to technical centres. They know there's a job to be done and they want to know what it's going to cost them to do the job. How reliable it's going to be? What level a person has to be to operate and maintain it. So as a result .... we don't do a great deal of technical literature. But, the look of it is far, far better than our competitors. What we provide for our market is certainly more appropriate. It's more effective .... *and* .... more relevant to their requirements.(f)

Reputation and Image

> With regard to the product under discussion. There was what I call the 'snowball effect'. They *(customers)* were saying "What does 'so-and-so' use? If it's good enough for Ericsson it's good enough for us".(b)

Quality and its Impact Upon Corporate Activity

> We also have to meet British Standards. Our manufacturing processes are approved to a certain standard of quality - and quality is something we see as not just applying to manufacturing. It should apply to the product itself. The finish of the product, to the way it's sold, to the way we deal with people, to the quality of our brochures and literature. *And we're assured that we're the best around.* We don't compromise on our quality. Quality is something we're working on throughout the group - although that was the starting point for getting BS approval. Something everyone is striving for and *we* hope that this comes across in how people that deal with us, see us.(c)

Quality, Price and Value

> Quality is distinctly superior but price is significantly less. We're much better priced - our strategy really. Performance is lower than competitors, but more than sufficient to do the application at hand. We offer much better value.(f)

Market Focus

We're niche market. There are few companies as dedicated to this area of business. Most of our competitors do lots of other things. In our niche markets we probably spend more than our competitors. I'd say much more. We put more people in the field and put more pressure on tiny points than anybody else in the world. The reason why I think we sell our product, rather than National Panasonic, in Europe is because we actually sell it better. More power, more effort - but it's so concentrated. And we don't try and spread it, that's pointless. We refine it right down and we apply an enormous amount of pressure. For things like - a customer says 'I've got a problem.' - and it's a guy we don't want to lose. Then tomorrow morning we put someone on a plane. Now to me that's 'pressure'.(b)

We've already targetted people. We've found out on the grapevine - or otherwise - that there's a prospective customer. Some of our smaller competitors are doing the same sort of thing. But our bigger competitors are not and that's why we have a lovely little niche to ourselves.(f)

Customer Targetting & Size

We don't wait for the customer to come to us. Our policy as a company is to identify the market - then identify it's customers or potential customers and then go after them. And say to those people - 'I want to talk to you. I've got something you require; and if you haven't, lets talk about what you do require'.(d)

We .... target the multinationals. The're our regular customers.(e)

We go for the bigger customers .... relative to our competitors.(d)

We target the big names. The're our regular customers. Then we start looking at the smaller ones.(aa)

The real battle ground is the OEMs - trying to win them. Because the small customers and single orders are hard won.

But once you've got an OEM signed up you've got regular orders.(ad)

We simply approached the market in general. I think that was a mistake and now we're targetting firms quite heavily. Doing key account developments. But in the early days we didn't. It was a mistake. We now have product sales specialists who double up as key account managers.(f)

Using the Data Base and Selling Benefits

The Finance Department are very good at using all the customer data bases that we have and doing a lot of work with us in setting up 'customer profiles' so that marketing can be much more focused in the kind of things we do. And also we'll be looking very specifically at segmented markets and how we present to them. So rather than saying - 'Hey we've got this controller that can do anything - you tell me what and it will do it'. We'll say 'Hey this is your .... instrument. Look, you hook up your 'xyz' and you plug it in and get etc etc. All words the customer understands and feels comfortable with. Rather than saying - 'Just tell me and we'll do it' - which is where we were. Same product - it's just the way we present it. It will come across as being just so.(ad)

Repeat Purchases

Yes - quite high - about 50%. That's how our customers tend to work. They'll buy one - try it and if the're a bit hesitant we'll give them a two month free trial. And then they'll come back and buy ten others to go on their production lines. An interesting thing is about 12 months ago I did some desk research and about 60% of our sales were being made to existing customers. .... I think it's probably higher now. We thought this was a good sign.(e)

We have a key account manager *system* that seems to work very well. It's only in the UK so far, but we have Nestles now who want to negotiate world-wide. They have 150 of our machines.... . Their purchasing people could be negotiating world-wide contracts.(e)

In the first year we'll sell single instruments to reference sites. Subsequently they'll make multiple orders once they've experience. We're hoping very much they'll come back and place orders for ten or more.(f)

There's a lot of repeat business throughout the business. There's brand loyalty. They know us. They do tend to keep coming back. It's easy for them and good for us.(f)

The Importance of an Alternative Source of Supply

There's another reason why they like us. Many of the large semi-conductor companies, our competition, are owned by companies engaged in the same business as the potential customers. Therefore they say *(our customers)* one of the reasons why some of the Japanese companies have not succeeded in Europe with really some quite excellent products is that a Philips or Ericsson will say it is too great a risk to place key components .... *from a competitor* .... in one of our pieces of equipment. When they come to us there is no such risk. Indeed one of the things the're absolutely sure of is when they bring a product out we'll be selling to everybody else in the world. They don't get an edge *(from us)* .... they get specialised knowledge and absolute honesty.(b)

APPENDIX 8.2(b).

A PLAN FOR PLANNING: A PRACTICAL GUIDE TO LAUNCH PLANNING AND MARKETING STRATEGY

Based upon both the quantitative and qualitative research results, a practical guide to launch planning is set out. The ensuing description follows the main features of the questionnaire. However, divergences are incorporated to reflect the research findings and the contextual issues raised by the participants. Whilst the recommendations might seem 'simplistic', it should be recognised that the poorer performing firms were relatively deficient in many of their practices. Additionally, all of the participants in the research, when offered, requested details of the research results. This Appendix is a step to meeting these requests.

Note that the Figure 'The Product Launch Plan' on page 469 is derived from the participants responses to Section 4 of the Questionnaire - 'Decision Variables Used in the Product Launch Plan'. This was based upon the schemas set out by Bobrow & Shafer (1987) and Crawford (1987).

THE PLANNING PROCESS

A Strategy for NPD and Related Planning Issues

The divisional Board should have developed an overall strategy for the integration of NPD projects into a general policy

for growth through innovation (an NPD program). A Board member should have a direct and active concern in NPD projects. The extent of involvement will vary with the degree of project innovativeness. The more innovative, the greater the involvement. All Board members should have an active interest in corporate innovation.

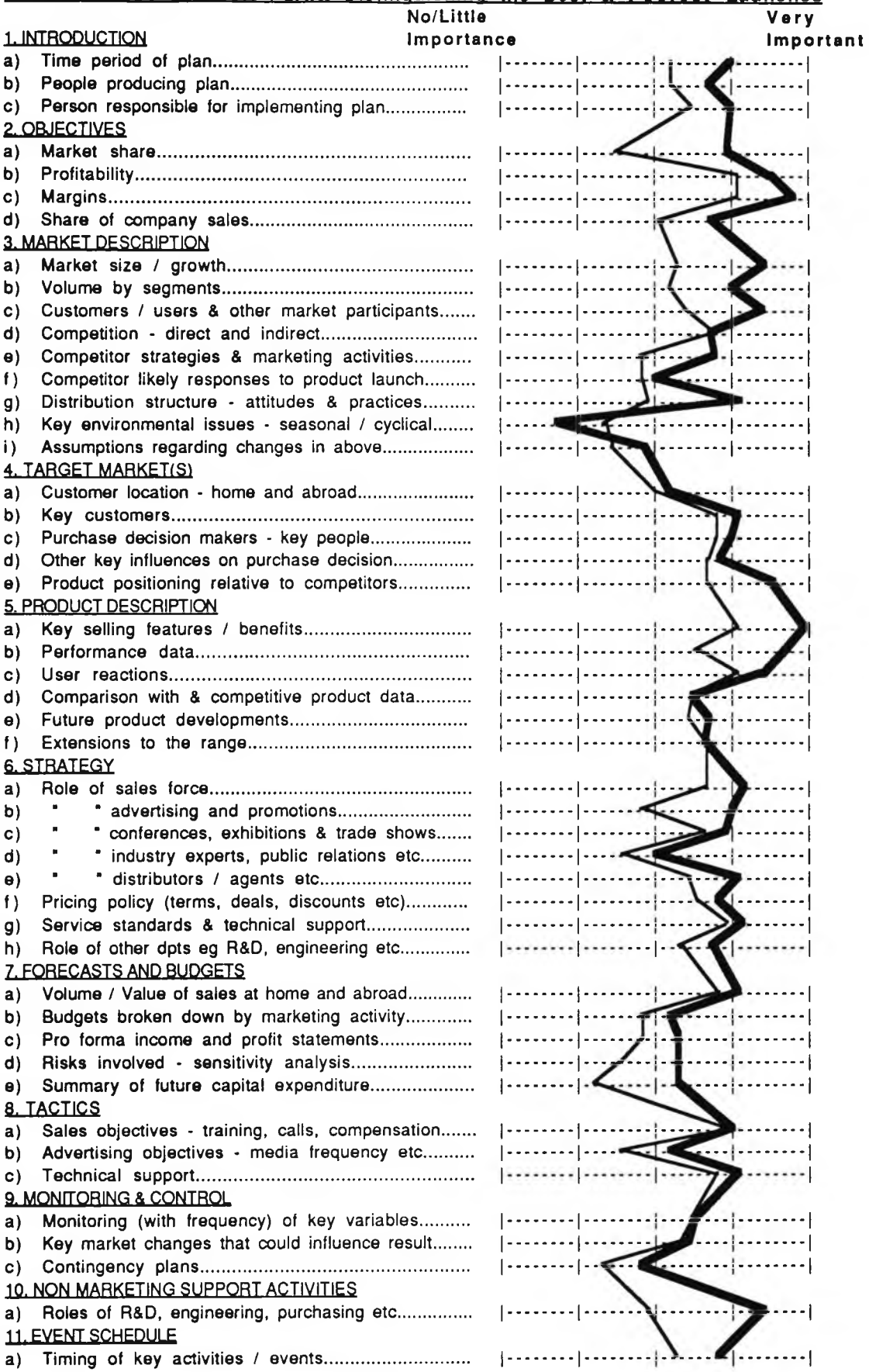
Concern for innovation should be reflected in Board members direct contact with customers and an appreciation of their product and service needs.

It can be worthwhile setting up a **new products committee** on which should sit the CEO, R&D director, marketing / sales director(s) and possibly the production and finance directors. Progress of each project will be reviewed on a regular basis by this committee, although for all but the most innovative of projects, the committee will remain at arms length from the project leader and his / her team.

The Timing of Launch Planning

Informal launch planning should begin about 15% of the way through the NPD process (which begins with 'concept evaluation and screening' and terminates with the launch). This informal planning should coincide with the 'Business Analysis' stage of NPD, which typically begins about 9% of the way through NPD and finishes about 16% of the way through. During 'informal planning' initial consideration will be given to the most relevant issues shown in the outline launch plan set out opposite.

THE PRODUCT LAUNCH PLAN: Distinguishing the Best & *Poorest* Launches



KEY: ━━━ = The ten **best** performers. ——— = the ten *poorest* performers.

The Figure shows the difference in ratings given to the planning criteria by the firms responsible for the ten 'best' and the ten 'poorest' launches. Focusing on the criteria where the difference in scores is 'one' or more, the most 'important' variable is the **'key selling features / benefits' of the product**. Other planning variables of note are - 'market share', 'market size & growth', 'future capital requirements' and 'the roles of R&D, engineering, purchasing etc.'

Formal launch planning begins about 70% of the way through NPD and is concerned with 'fleshing out' the launch plan details and preparing such things as brochures, advertising, exhibitions / trade shows and conferences etc - assuming, of course, this work was not required earlier. Clearly a great deal depends upon the total length of the NPD process and specific market requirements.

Market Analysis for the Launch

The Marketing Information System (MIS) should be used to the full. This will contain data on such things as sales to previous customers, quantities sold, repeat business, types of product usage etc. Customer profiles can be developed as a means of better targetting sales efforts. The accounting system can also be an excellent source of information. Whichever source is employed forethought is required to ensure the relevant data is readily available.

The greater use of **Market Research** to inform the business and launch planning is one of distinguishing features of more successful launches. **Desk Research** can usefully indicate market trends etc and competitor activities. Personnel can be commissioned to regularly review technical and trade literature. The purchase of commercial research can be of value and in some markets Financial Times publications have yielded good summaries of much more expensive reports.

Existing customers are also excellent sources of information. Applications engineers, the sales force etc can elicit invaluable data. Additionally, customers are unique in providing 'beta' sites for new product testing and evaluation. Their feedback can be used both for product modifications and the incorporation of key benefits into sales and marketing propositions.

Consideration should also be given to consultation with (any) agents and/or distributors. Because they sell the product on their confidence and support is vital.

Formalisation in the Planning Process

The majority of companies are not very formal, although if 'monitoring & control' is taken into account their 'formality' rating invariably increases. Additionally, a certain degree of formality is necessary to ensure that the relevant planning activities are taken seriously.

A signing-off procedure following a successful development stage, and prior to commercialization, is an invaluable means of focusing attention on the need to ensure that product launch is effectively accomplished. This should be associated with the clear **assignment of responsibility for producing the launch plan**. This will often be the project leader.

An outline **planning manual** can be useful in providing guidance to the planners. However, any such document is not sacrosanct.

Generally, planning is conducted on an informal basis. **Meetings** are usually informal, but frequent and adhoc. However, at regular intervals formal meetings are held to review progress. These meetings are cross-functional and minuted. The minutes are distributed.

Completed **plans are distributed** on a fairly wide 'need to know basis' - including overseas operations and channels. For areas other than marketing and sales this can be done with a 'tailored' version of the plan eg to departments such as R&D and production. It can also be useful to produce a 'launch pack' that summarises the key features of the launch.

Participation in the Planning Process

Involvement in planning is wide spread.

Internally - all 'interested' functions are involved, either directly or on a consultative basis - eg Marketing / sales, R&D,

production, finance.

Externally - distributors / agents, suppliers and customers can all be consulted. This consultation will undoubtedly become much more important where practices such as JIT are employed.

Top management keep a watching brief on the planning process. They are 'observant' participants, but in general the process is bottom-up - within recognised constraints. The more 'revolutionary' the product the greater the involvement of top management.

Market communications (product support literature, advertising etc) are often most effectively developed by marketing staff. Technical 'jargon' is 'translated' into purchasing decision makers and users vocabulary. The best communications are 'user friendly' and recognise the benefits sought by the purchase-decision-maker and those who are influential in the choice of new products. An external consultant may be helpful in producing jargon free literature.

Monitoring & Control for Planning

Control techniques for the planning activities are basic but robust. Bar charts are the preferred method.

Keeping to **deadlines** is very important given the increasing value of speedy NPD and being first to market. A common 'spur' is to launch at a major exhibition. However, launching with a flawed product can lead to disastrous sales losses and delay is the 'lesser

evil'.

The launch budget is invariably funded from the annual marketing budget. Within reason, launch budgets are set on the basis of the costs of the marketing tasks to be undertaken to achieve specific objectives. Rather than cannibalising a limited annual budget, additional provision should be made to meet the costs of any launches within the annual budget's time scale.

Monitoring of performance, both pre and post launch, is undertaken on a regular basis. Monitoring meetings take place fortnightly and are a formal, inter-departmental activity. Additionally, they are part of the informal, daily agenda.

Following launch, only **a few key variables are tracked**. These are commonly -

* Sales: by volume, value, geographic area and distribution channel. Sales by different segments.
* Product awareness amongst potential customers.
* Responses (enquiries) to media advertising, quotations and conversion rates.
* Customer satisfaction.
* Reasons for failure to sell.
* Prices, discounting, profit margins - profitability.
* Costs (manufacturing) and their reduction.
* Quality, performance and reliability. Repairs.
* Production schedules.
* Stock levels / inventory management.
* Competitor reactions.

Clearly, not all of these are relevant to every firm. Typically, product managers focus upon the key 4 or 5 variables for their product and market type.

Checks on customer satisfaction are particularly important. This should be part of a concerted campaign involving a wide range of 'vehicles' eg the sales force, telephone & fax, sales reply cards etc. Additionally, checks should be made on the new product's reception by intermediaries such as distributors and agents. 'Satisfaction appraisal' can also involve top management calling on customers.

Competitor monitoring is also a frequent activity. As with 'satisfaction checks' these are a regular item at the performance review committee meetings.

Continuity and control can best be achieved by making the new product's market manager a member of the NPD project team. He / she will also have a key role / responsibility in developing the launch marketing plan.

Flexibility for Implementing the Plan

The product's market manager should have a degree of discretion in making changes, although because of his / her proximity to at least one director changes can usually be consultative. Changes are fast - facilitated by sensitive and close market monitoring.

Prompt reactions to market demand are also aided by prior attention to product design for manufacturing and serviceability.

Characteristics of the Plan

Objectives to be achieved for the new product should be **quantified** and err on the side of sales targets rather than profitability. They should also be 'fairly' **ambitious** eg European market leader in 'our niche'. At the very least firms should be thinking 'European' - meeting the competition abroad rather than just in the home market.

The **length of plans** are preferably brief ie 5 to 10 pages. Circulation can be fairly wide. Apart from sales / marketing to eg production, R&D, finance etc. Where necessary a brief synopsis may be circulated or even posted up.

Plans generally stretch forward at least a year and incorporate major contingencies.

MARKETING LAUNCH STRATEGY

Market Ambitions

Market spend on launch should be, relative to competitors, higher. But just as important, sheer **persistence** needs to be greater.

Production capacity should also be sufficient to meet market demand (eg up to 50% of anticipated **total** first year demand). This places a premium upon 'accurately' forecasting demand. In addition, **continuing R&D spend** reflects a desire to develop and expand the product line. Broader product lines are generally more successful.

Marketing Effort

Effort expended on the marketing mix (advertising / selling and distribution) is generally much higher relative to the competition ie about 5 + % greater.

Customer service and dealer support are particularly important. Establish, where appropriate, a 'hot line' for customers.

Use conferences and seminars as a means of propagating the technical merits of the product. Get technical staff to give papers. Encourage and facilitate customer recommendations of the product. At **trade shows** ensure that the new product is conspicuously displayed, if not dominant.

Technical literature needs to be couched in terms of the purchasers language and perceptions. Sell the **benefits** of the product to the people who make the purchase decisions. But remember that **users** also require clear advice and instructions. They may not be as technically literate as the decision makers.

Superior **product value** is one of the most important marketing keys to commercial success. This is calculated as -

Value = Relative product quality ÷ Relative price

both calculated as a percentage of the levels achieved by the most important competitor.

eg Relative quality* = 5% higher, therefore score is 105
Relative price = 5% lower, therefore score is 95
Relative value = 105/95 = 1.105
= 11% better

* Where relative (to major competitors) quality is a mix of such factors as - reliability, durability, serviceability, delivery, application assistance etc.

On average the most successful product launches were found to provide about 15% greater product value relative to their competitors. In contrast the least successful launches were only offering 2% more.

The greater the customer value provided the more likely the success of the product. British Standards can provide a worthwhile benchmark and incentive to improve quality.

Don't compromise on quality! Attention to design (engineering & industrial) will also benefit the launch. Better engineering design can improve production efficiency, reduce manufacturing costs and make field servicing easier. Industrial design should also result in ergonomically superior products that are aesthetically pleasing.

Company reputation and image are amongst the most important contributors to new product success. These are a reflection upon earlier success (the accrued 'interest' on previous efforts), as well as reinforcing the importance of effective performance in each launch.

Market Focus

Market niches, yes. But not too small. Future growth depends upon more substantial markets.

Market targetting is vital - the rifle approach rather than the shotgun. Identify and focus upon key customers. Often these will be more innovative and large. Larger customers accounting for a greater proportion of sales have the virtue of economising on sales effort, so long as this does not result in over-dependence. Where appropriate, (the potential for) **repeat purchases** will be an important ingredient in target selection. 70% or more of sales can come from repeat purchasers.

To facilitate this process **'key account' managers** are valuable for their role in facilitating customer focus and attention.

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