9.2.2 Scope and Content of the Plan

SS 1990 was the outcome of a four month process within the IS/T area in 1989 to formulate a five year plan for systems development and management. This was in the context of a GHQ decision to ensure that technology costs were more closely directed to areas which provided the greatest benefit and were consistent with the strategic direction of the Bank as a whole. The Plan set out the Bank's overall strategy for applications development, data management, telecommunications, security and technical infrastructure; developmental projects required to meet business objectives; costs and benefits; responsibilities and timetable for implementation; and, finally, how the systems plan was to be managed on an ongoing basis.

The Bank's overall strategy was listed in SS 1990 as aiming at lowest cost delivery, diversification into related financial services, an enhanced image of customer service and the establishment of improved remuneration systems for staff. The objectives for Retail financial services were underpinned by efficient processing in a widespread and effective distribution network.

Several high level objectives provided the framework for the development of the systems strategy for the five year planning period to 1995. These included the need to ensure that systems strategies struck an appropriate balance between current and medium term business strategies for the firm; that common understanding of strategies existed; and that the plan provided a framework for coordinating implementation and the management of systems costs.

The Executive summary identified the business issues which led to the formulation of the strategy: the Bank's systems were not aligned adequately to its major objective of reducing delivered costs, profitable growth and improved productivity. Business objectives were generally not clearly defined, so that systems requirements tended to focus on current issues and short term projects. This resulted in the likelihood that systems would not generate the greatest return and competitive advantage over a long timeframe. Sustained reductions in systems costs were seen as a real possibility.

The Bank needed greater emphasis on Retail and mainstream systems and a new approach to assigning systems priorities and allocating resources. A cohesive network architecture was required to overcome the present problems inherent in
the current systems, where development was behind schedule and projects were not adequately coordinated.

A structured redevelopment of Bank Four's critical business systems was recommended. This included the redevelopment of mainstream systems to ensure conformity with the design and developmental concepts and Retail banking's strategic objectives; the cessation of short term developments to enable a greater focus on marketing and product information; and the ongoing development of the projects in the 2-5 year time span including core banking systems and executive information systems.

The level of awareness by senior management of the potential of information systems was seen as low and there had been inadequate mechanisms for involving senior systems managers in past business and strategic decisions.

9.2.3 Discussion of the Plan

SS 1990 made major recommendations related to the development of new systems strategies, all of which were accepted within Bank Four. These focused on the introduction of a structured redevelopment of critical business systems to protect and improve the Bank's competitive advantage; secondly, the completion of work on an integrated design and development methodology; the development and enforcing of consistent technical policies concerning equipment, networks and software; a consistent systems application architecture and rationalisation of the telecommunications network.

The Plan recommended a series of organizational structure and management changes in the IS/T area. These were aimed at streamlining the IS/T area and aligning it more closely to business unit needs. As a result, central support and 'mainstream' systems development divisions were created in the IS/T group and a layer of management reduced from the systems development process. The Plan suggested that the IS/T management processes would be strengthened by placing greater emphasis on accountability, performance measures, training and management development. Staff working in the strategic planning area of IS/T were to be rotated every 18 months or so to ensure that they were current with both business requirements and technology.
The thrust and contents of SS 1990 presented strong evidence that Bank Four's information systems and technology planning and implementation processes had not been integrated with business strategy at either corporate or Business unit levels. The process of initiation and approval of projects, and subsequent resource allocation, did not necessarily take into account overall corporate priorities. Business objectives at the Business unit level were generally developed for the medium term. These were not defined sufficiently clearly to enable the generation of detailed and pertinent IS/T plans.

The Plan SS 1990 recognised the critical importance of the IS/T area to Bank Four's business objectives. This was reflected, too, in recommendations to change the management and organizational structure of the IS/T area to generate the best return on IT investments, together with competitive advantage.

9.3 Information Services Infrastructure

Bank Four had reorganized its organizational structure at the beginning of 1989 so that the Bank now had eight Business units organized on a combination of functional and geographical lines. As part of this process in the Retail area, greater responsibility was devolved to regional and branch levels. In the information systems and services infrastructure area, major changes had taken place, or were still in process early in 1990. Reference will be made first to the infrastructure for information systems and services as it was in 1989, and then to the structure approved in 1990.

The management and physical control of the IS/T area in Bank Four had been highly centralised, though some Business units had their own IS/T staff. The IS/T area operated as a GHQ group which was further divided into six groups reporting to the IS/T executive manager. Requests for systems developments were handled by an IS/T initiated and controlled ranking procedure. The IS/T group itself could forward proposals for consideration and there was a perception that those projects received a higher priority than was merited on business grounds.

Despite the centralisation of IS/T operations, current projects were utilising a variety of application languages, needed different specialist skills and were not utilising database technology. This resulted in poor management information
and imposed a variety of procedures at branch level which were identified as constraining productivity.

The acceptance of SS 1990 early in 1990 had resulted in a significant reorganization of accountabilities and procedures in the IS/T area. The six groups reporting to the IS/T manager were consolidated into three groups. Within these groups several new divisions were created which brought together previously dispersed functions. This was aimed at providing better and more visible support for Business units. A review of the applications development priority process was to be undertaken in order to recommend improvements.

As part of the new structure, groups focusing on resources for the IS/T area were brought together under one manager. These included responsibilities for GHQ level Systems Planning, IS/T personnel planning and management accounting.

In other information-related areas, corporate level strategic planning, with its external information requirements, and management information was the responsibility of the head of the GHQ Finance area. Bank Four's library services were formally part of the economics group in the Treasury area and provided a major resource in the strategic planning and competitor intelligence areas for other units. This library service had also recently incorporated the IS/T library service and had a technology awareness support and reporting function. (The legal area had a separate library service.)

There appeared to remain gaps in responsibility for the development, coordination and control of management information and the integration of internal and external information.

At the time of data collection, then, Bank Four was undergoing major changes in its information services infrastructure. These changes were aimed at providing more appropriate information systems planning, approval and support mechanisms so that the business objectives of the Bank could be accomplished. The centralised aspects of the Bank's IS/T operations remained, but with greater definition of purposes, and linking to business needs in the medium and long terms.
9.4 Annual Reports

9.4.1 Discussion of Strategy

Bank Four's annual reports from 1985 to 1989 listed the Bank's corporate purpose. However, until the 1988 report there was little direct mention of strategic thrust or the Bank's strategy. In the 1985 to 1987 reports, attributions to strategy were very general and could only be gleaned through indirect statements: for example, the rationale for Information Technology developments given in the 1985 report was to enable the Bank to better serve the needs of its customers and to deliver services quickly and efficiently. The 'relationship banking' concept was referred to in the 1986 and 1987 reports.

In 1987 Bank Four's mission statement referred to 'cost efficient' access to the financial system. The CEO's letter stated the the Bank was modifying its use of resources and applying new technologies to improve efficiency of all services. The Bank was directed towards providing customers with products and options which were of the highest quality in terms of 'suitability, diversity and cost-effectiveness'.

The conditions under which Bank Four operated changed in 1988. This was the first time that a 'corporate plan' for the Bank was mentioned. The plan addressed strategic priorities for growth and was founded on productivity improvements and a performance based approach to management of the Bank's activities. Elsewhere in the 1988 report, improvements in productivity were seen as a major achievement, together with the continued development of the Bank's product base. The report noted that electronic facilities had assisted the Bank to provide products and services economically to its very large customer base.

The Bank's commercial objectives in 1989 were for profitability, growth and productivity. A careful reading of the 1989 report would identify the Bank's strategic thrust as the development of a range of products, based on an extensive electronic processing network and utilising electronically-based products as far as possible. However, there was not an overt or clear statement with that intent.
9.4.2 Organizational and Structural Changes

There was very little discussion of organizational or structural changes from the 1985 report up to and including the 1988 report. However, the 1984 report highlighted significant changes in the Bank's corporate structure, which were put in place to enable the Bank to compete on a fully comparable basis with its major competitors, in a market situation undergoing considerable change. The revised structure brought the Bank more in line with broad financial market sectors.

The CEO's letter in the 1989 report attributed gains in productivity to several factors: improved systems, reduction in the layers of management and raising both responsibility and accountability in the management line. The establishment of a regional structure in the Retail banking area during 1988/89 was seen as a major step towards those ends. An emphasis on productivity improvements enabled the Bank to keep charges down to competitive levels, while providing good service, and it was essential to achieve a level of profitability in line with industry standards.

9.4.3 Information Technology References

Content analysis of Bank Four's annual reports from 1985 to 1989 showed a relatively high number of references to information technology (See Figure 9.5). The content analysis was taken from CEO letters from 1986 to 1989 inclusive, with the 1986 figures including the paragraphs from six pages of highlights interspersed with the CEO's letter. For the 1985 report, the analysis was done from the review of operations over the name of the Chairman as there was not a separate CEO letter.

Four of the five reports contained favourably phrased references to IT expenditure in relation to financial performance and there were no unfavourable financially-related mentions. The number of IT phrases averaged 45 per report, though the figures were considerably skewed by the 1985 report (See Figure 9.6). This report contained nearly twice the number of references to the other four reports.
## Figure 9.5 IT phrases in Bank Four Annual Reports

<table>
<thead>
<tr>
<th>Context and Nature of the Phrase</th>
<th>Year</th>
<th></th>
<th></th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Financial Performance</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1 Neutrally stated IT expenditure</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>1.2 Favourably stated IT expenditure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.3 Unfavourable stated IT expenditure</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>2. Major Event of the Year</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.1 Investment in IT to offer products</td>
<td>36</td>
<td>26</td>
<td>17</td>
<td>23</td>
<td>20</td>
</tr>
<tr>
<td>2.2 Investment to change production/prodn econs</td>
<td>9</td>
<td>4</td>
<td>11</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>2.3 IT executive change</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>2.4 IT organization/reorganization</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.5 IT consolidation, incl security</td>
<td>2</td>
<td>4</td>
<td></td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>2.6 IT repositioning in the firm</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>2.7 IT repositioning in the industry, alliances</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>2.8 IT Training, health and safety considerations</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td><strong>3. Future Outlook</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.1 Investment in IT to offer products</td>
<td>10</td>
<td>3</td>
<td>6</td>
<td>2</td>
<td>21</td>
</tr>
<tr>
<td>3.2 Investment to change production/prodn econs</td>
<td></td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>3.3 IT executive change</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>3.4 IT reorganization</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.5 IT consolidation</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>3.6 IT repositioning in the firm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.7 IT repositioning in the industry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total occurrences by Year</strong></td>
<td>72</td>
<td>36</td>
<td>40</td>
<td>41</td>
<td>35</td>
</tr>
</tbody>
</table>

85% of the IT phrases related to IT in the 'major event of the year' category, with approximately 55% of the total focussing on investment in IT to offer products. Another 16.5% were on IT investment to change production or production economics. Over 75% of the IT phrases relating to future outlook were concentrated in two annual reports, those from 1985 and 1987.
The length of CEO letters from Bank Four reports varied less than those of other Banks. Excluding the atypical year of 1985, phrases per paragraph ranged between 0.23 and 0.26, while the percentage of paragraphs with IT phrases ranged between 10 to 14 per cent. The 1985 report was high on all comparative measures.

**Figure 9.6  Concentration of IT Phrases in CEO Letters**

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>85 86 87 88</td>
</tr>
<tr>
<td>1. Number of IT phrases</td>
<td>72 36 40 41</td>
</tr>
<tr>
<td>2. Length of letter in paragraphs</td>
<td>138 157 170</td>
</tr>
<tr>
<td>3. Phrases per paragraph</td>
<td>0.52 0.23 0.24 0.26</td>
</tr>
<tr>
<td>4. Number of paragraphs with IT phrases</td>
<td>31 18 23 19</td>
</tr>
<tr>
<td>5. Percentage of pars with IT phrases</td>
<td>22 11 14 10</td>
</tr>
</tbody>
</table>

In a qualitative sense, Bank Four's annual reports provided evidence of the centrality of IT to Bank Four's activities and implicit strategies. From 1985, electronically-based services feature in highlights from the Bank's year. The Bank's use of 'advanced technology' enabled extension of the range and accessibility of the Bank's services (1985). The Bank's electronic network was given credit for contributing to the 'marketplace success' of the Bank in 1986, while the Bank was described as having 'an eagerness to seek the benefits of technology'.

'Electronic technology' placed an increasingly important role in meeting 'customer needs' and making the Bank 'more efficient' in 1987. Investment in technology continued in 1988 because of the Bank's need to maintain a high level of reliability in delivery of customer services. That investment sought to take advantage of emerging new technologies which could provide 'opportunities for new services' and 'improved effectiveness'. Gains in productivity reported in the 1989 report were attributed, in part, to improvements in systems.

There was extensive use of technology-oriented photographs throughout all reports. This reinforced the regular mention of electronically based services in each year's highlights.
Bank Four's annual reports indicated the importance of investment in information technology to the Bank. There was an overt emphasis on the use of technology to increase accessibility to the financial system, create products and to reach particular markets. In general terms this was aimed at improving customer service. However, these reports provided only a limited view of the Bank's strategic orientation. That orientation was accessible only by a close reading of the sections relating to the Retail and IS/T areas.

9.5 Bank Four Summary Situation

Executive managers in Bank Four had differing perceptions of the information-based comparative positioning of the Bank in relation to competitors, varying from above to below average both for the Bank as a whole and also for the Retail area. This lack of consensus was reflected in the number and range of areas in which participants believed that the Bank had gained a comparative advantage. However, one area relating to the number and availability of ATMs, was marked by all managers and a second, electronic home banking, by four of the five participants.

There was a relatively high level of agreement about the strategic orientation of the Bank as a whole in that all managers marked one area in common: 'Overall cost leadership'. However, responses in the Retail area were more dispersed. As Bank Four is a predominantly retail banking organization, this assumes greater significance.

The bank-wide strategic planning process was of relatively recent origin and there was agreement that the outlook in the Business units was generally not sufficiently longterm, nor was the process yet detailed enough. This hampered the IS/T planning processes. Strategic planning was not necessarily woven into all areas of management and much greater attention was required at the implementation stages. The IS/T area had had a planning process in place for over 20 years and this had tended to skew developmental priorities in a technology-led rather than a business-led manner.

The Bank had major problems relating to adequate sources of customer information, though new systems in place were aimed at addressing this. Despite the centralisation of IS/T area and the operational efficiency of systems, there was
a lack of effective coordination and control of systems developments, with projects utilising different applications languages. The length of time taken to develop agreed systems was unsatisfactory.

The systems strategy plan presented and accepted early in 1990 had meant the introduction of a structured redevelopment of critical business systems to protect and improve Bank Four's competitive advantage. This included the redevelopment of mainstream systems to ensure conformity with the design and developmental concepts and Retail banking's strategic objectives and the introduction of executive information systems. The latter might go some way towards improving the present inadequate management information systems situation.

Bank Four had been at the forefront of some technology-related developments, such as ATMs, which had enhanced the Bank's 'Overall cost leadership' strategy. However, other IS/T developments were not necessarily driven by, or supportive of, this necessary strategy. In its Systems Strategies 1990-1995, Bank Four acknowledged the critical importance of IS/T to the achievement of its business objectives, and recommended a comprehensive range of strategy, planning, operational, organizational structure and management changes. The acceptance of these indicated Bank Four's 'turnaround' situation, and its desire to better align business and information strategies.
10. COMPARATIVE ANALYSIS OF THE FIRMS

10.1 Comparative Analysis Approach

The aim of this study was to explore the alignment of business and information strategies and organizational factors which might be related to that alignment. A series of environmental and industry factors impinging on alignment was identified in Section 3.9 and depicted in Figure 3.2. A preliminary model of alignment for firms, was developed from the literature and presented in Section 3.9, as Figure 3.3. This model identified three main clusters of variables, or contexts, which might be related to business and information strategy alignment at the firm level: strategy, organizational, and information services context factors provided three sets of interrelated variables. These are in complex interaction in firms, and combine in different ways to affect business and information strategy alignment.

Strategy context factors focussed on strategic planning processes and outcomes in firms, strategic thrusts and their appropriateness to industry and firm conditions, and the consideration given to information technology in firm-wide strategic planning. Organizational context factors included the complementarity of organizational structure to strategic orientation, the locus of control of decision-making processes, communication of strategic planning outcomes, and managerial agreement on the strengths and weaknesses of the organization. Factors in the information services context were the organizational scope of information systems planning and the relationship of IS planning to organization-wide strategic planning processes, the scope of responsibility and reporting level of the IS/T Manager, interaction of business and information managers and the involvement of business managers in information systems developments, and the existence of information systems and services which meet differential requirements within the organization.

An empirical study was designed to see if there was evidence to support the factors identified in the model and summarised above, and to identify other possible factors. The design of that study involved multiple sources of evidence, collected in a structured manner, from a small number of organizations in the same industry. The Australian financial services area was selected as the 'leading edge' industry area where business and information strategy alignment was essential and, thus, attempts to achieve this were more likely to be evident. This was because of the combination of environmental factors in that industry, its products and services and reliance on
information and information technology, its current competitiveness and the size of its major firms.

The sources of evidence, from executive managers, strategic planning, other firm documentation and the analysis of annual reports for each organization, are detailed in Chapters Six to Nine. The content of these chapters provides the basis for a comparative analysis of the firms in this chapter and the development of grounded hypotheses in Chapter Eleven.

In this chapter, the results of the findings in each of the firms are compared, with emphasis being placed on areas where the firms differed in their responses. The results and comparative analysis are grouped into seven major areas and discussed in the next seven sections:

1. Information-based advantage performance (Section 10.2)
2. Strategic orientations of the firms (Section 10.3)
3. Strategic planning and decision-making processes (Section 10.4)
4. Information technology and strategic processes (Section 10.5)
5. Information problems and systems development processes (Section 10.6)
6. Organizational arrangements for information services (Section 10.7)
7. Manager education and experience (Section 10.8)

This will enable the evidence for the research questions listed in Section 1.8 to be explored and assembled. In Chapter Eleven, the results of the comparative analysis will be discussed in the context of literature examined, particularly that synthesised in Section 3.8, and a revised alignment model is proposed.

10.2 Information-based Advantage Performance

10.2.1 Sources of Evidence

Evidence for the alignment of business and information strategy was sought in executive manager responses concerning the extent to which their firm had gained an information-based advantage over its competitors. This evidence was sought in three ways: in Questions 17 and 18 on the Preliminary Response Form where executive
managers were asked to indicate how their Bank's use of information-based comparative advantage compared to that of their competitors, both for the 'Bank as a whole' and for the Retail area; Question 19 listed 18 areas of potential IBCA for financial services firms and executives were asked to indicate any areas where the Bank had gained some advantage over competitors; finally, at interview, these responses were probed to identify what benefits had been gained and how these benefits were tracked.

10.2.2 Overall Information-based Advantage Performance

The responses of the four Banks to questions seeking responses concerning the Bank's overall information-based advantage compared to competitors are depicted in Figure 10.1. The means of the 1 to 5 Likert scale of 'Low' (1), through 'Average' (3) to 'High' (5) and then the standard deviations for those scores are listed both for the 'Bank as a whole' and for the Retail area.

Bank Three was the only Bank where all executives indicated that the Bank had at least an 'above average' position in relation to competitors both for the 'Bank as a whole' and for the Retail area. Executive managers in Banks One and Two generally ranked their own firms as average performers in their use of IBCA. Bank Two executives consistently saw their Bank at present as an 'Average' performer. Bank Four executives indicated the greatest level of variance regarding their responses in both areas, and the lowest mean for the Bank's position in the Retail area. The variance for both Banks One and Four in the Retail area are more important than the raw figures might indicate as both of these Banks are predominantly retail operations. Thus, this is the area where they would be expected to exhibit some advantage over their competitors, and to have some shared understanding of their current positioning.

<table>
<thead>
<tr>
<th>Section of the Bank</th>
<th>Bk 1</th>
<th>Bk 2</th>
<th>Bk 3</th>
<th>Bk 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Bank as a Whole: compared to competitors: Means</td>
<td>3</td>
<td>3.1</td>
<td>4.4</td>
<td>3</td>
</tr>
<tr>
<td>2. Bank as a Whole: compared to competitors: SDs</td>
<td>0</td>
<td>0.22</td>
<td>0.49</td>
<td>0.89</td>
</tr>
<tr>
<td>3. Retail banking: compared to competitors: Means</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>2.8</td>
</tr>
<tr>
<td>4. Retail banking: compared to competitors: SDs</td>
<td>0.71</td>
<td>0</td>
<td>0</td>
<td>0.75</td>
</tr>
</tbody>
</table>

Figure 10.1 Information based competitive positioning

251
10.2.3 Range of IBCAs

The number and range of Information-based comparative advantages (IBCAs) identified by executives in each Bank is indicated in Figure 10.2. The numbers in the cells opposite rows 'a' to 's' represent the number of executives in the Bank who indicated that their firm had achieved an IBCA in that particular area. As the number of executive participants varied between the firms, the average number of IBCA per participant is listed at the bottom of the table, along with the standard deviation of the numbers identified for each Bank.

Figure 10.2: Number and range of IBCAs in Each Bank

<table>
<thead>
<tr>
<th>Information-Based Comparative Advantage</th>
<th>Bk 1</th>
<th>Bk 2</th>
<th>Bk 3</th>
<th>Bk 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Differentiated customer services</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>b. Differentiated customer products</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>c. Electronic home banking</td>
<td></td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>d. Electronic Funds Transfer/Point Of Sale Terminals</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>e. Number and availability of auto'd teller machines (ATMs)</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>f. ATM interchange links with other financial institutions</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>g. Integration of customer data</td>
<td></td>
<td>1</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>h. Centralised transaction processing centre</td>
<td>1</td>
<td></td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>i. Consolidation of applications onto a uniform product base</td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>j. Market analysis, marketing</td>
<td></td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>k. Competitor intelligence</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>l. Internal networking systems</td>
<td></td>
<td></td>
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<tr>
<td>m. Office automation, records management</td>
<td></td>
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<tr>
<td>n. MIS Planning and control</td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
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<tr>
<td>o. Cost accounting</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
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<tr>
<td>p. Risk management techniques</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
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<tr>
<td>q. Inventory or Stock control, asset management</td>
<td></td>
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<tr>
<td>r. Investment and Financial planning</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
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<tr>
<td>s.</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>11</td>
<td>13</td>
<td>33</td>
<td>27</td>
</tr>
<tr>
<td>Executive Manager participants</td>
<td>4</td>
<td>4</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Average number of IBCA per participant</td>
<td>2.75</td>
<td>3.25</td>
<td>6.6</td>
<td>5.4</td>
</tr>
<tr>
<td>Standard Deviations within Banks</td>
<td>1.7</td>
<td>2.5</td>
<td>1.9</td>
<td>2.7</td>
</tr>
</tbody>
</table>
Bank Three had the highest average number of IBCAs per participant, with 6.6, followed by 5.4 from Bank Four. Bank One had the lowest number and smallest spread of IBCAs. Banks Two and Four had considerably higher standard deviations amongst their executives than Banks One and Three. The responses to this question were quite consistent to responses to the earlier questions 17 and 18. Bank One had few IBCAs and this was acknowledged by its executives. Bank Two's executives indicated advantages in a number of areas, but there was no area which was marked by all executives. One Bank Two executive was insistent that Bank Two did not have any IBCA over competitors at the present time.

Bank Three had the highest level of information-based advantage, together with a high level of internal agreement about the number and nature of those advantages. While executives in Bank Four indicated a relatively high average number of IBCA per participant, the number marked by executives ranged from three to ten. This is reflected in the highest standard deviation of all of the Banks and is consistent with the earlier responses as depicted in Figure 10.1.

There were no areas of IBCA where all participants in Banks One and Two thought that their Bank had an information-based advantage. In contrast, Bank Three had two areas and Bank Four one where all five participants thought that the Bank had gained an advantage.

10.2.4 Nature of IBCAs

When reviewing the eighteen IBCA areas listed, it becomes evident that there are some areas where most Banks think that they have an advantage over competitors, and others where only one Bank sees it as an area of advantage. For example, EFTPOS (area 'd') is seen by the majority of participants in Banks Two, Three and Four as an area where they have an IBCA over competitors. The same is true for ATM interchange links (area 'f') for the majority of participants in Banks One and Three and a significant minority in the other two banks, and for the centralised processing centres (area 'h') of Banks Three and Four. In some cases, then, the advantage gained may be over smaller competitors, while in others, there may still be some advantage over some major competitors, though not all. The advantage may have been in the nature of a 'first adopter' where part of the advantage gained is in the experience of exploitation and staff expertise gained earlier than competitors. In other situations, once one major firm has developed a certain type of advantage, then it is incumbent on other major firms to adopt similar strategies in order to maintain their position at even the same level in the industry. ATM and EFTPOS are examples of
the nature of the industry being changed by information technology-based developments.

At the same time, though, there are other areas where only one firm sees itself as having an advantage. Examples of this are Bank Three's integration of customer data (area 'g'), consolidation of applications onto a uniform product base (area 'j') and marketing and market analysis (area 'k'), and Bank Four's electronic home banking (area 'c'). If these are advantages sought by all banks, or, if they are an integral component of the bank's business strategy, then these advantages may be more significant than some others. In the case of the three Bank Three areas, the first two were consistently referred to in interview by executives from other Banks as information problems they were keen to overcome, and areas of long term need in the banking industry. Bank Three's current lead in this area was acknowledged. However, no other bank, identified electronic home banking as a feature that they needed to develop further in their range of products and services.

10.2.5 Tracking of Benefits

In interview, participants were asked to indicate the benefits provided by the major IBCAs that they had indicated their bank possessed. In Bank One, differentiated customer products were now possible because of the development of banking systems which provided customers with linked account statements. However, this product was not seen to provide any readily identifiable financial return to the Bank, as it was used as a 'loss leader' with the product being underpriced.

Bank Two's limited advantages were seen by their executives to be more in the nature of 'positioning' advantages, providing good investments from an infrastructure perspective, although some part of Bank Two had gained considerably from its extensive internal network, and this had provided the foundation for uncoupling the bank's technology and organizational structures. However, it was acknowledged that effective use of this network would require the development of different behavioural and management skills.

In their comments concerning the tracking of benefits, Bank Three executives focussed on the interconnection between several of the identified IBCAs: the recently installed ledger or core banking system provided a basis for greatly enhanced customer information and the development of segmented customer databases. The bank's centralised processing systems, and consolidation of products onto a uniform
base, provided continued 'low cost' banking on which to then build differentiated services and products to meet the needs and expectations of different market segments. The Bank's early entry into ATM interchange links had meant that it gained major benefits from its arrangements with other financial institutions, as well as greater experience in the early stages of these developments.

Bank Four's ATM installations and its centralised transaction processing systems were essential prerequisites to contain the cost of banking, because of the extensive nature of Bank Four's retail customer base. However, electronic home banking was not seen to provide a 'payback' in financial terms, though it assisted the Bank's desire to have a technology-oriented image and met the needs of some customers.

In interview, participants in Banks One, Two and Four consistently volunteered that they saw Bank Three as the bank with the best information-based advantage position at present, though this was not necessarily a position which they would retain over time. Banks Two and Five were seen to be putting in place systems and services which could result in dominance in this area within three to five years.

10.2.6 Summary

In the information intensive financial services sector, banks which had greater advantages over their competitors were seen to have better alignment of their business and information strategies than those with less extensive advantages. The realized information strategy of the firms in this study was seen as the position, number and nature of their information-based comparative advantages in relation to competitors. Bank Three was clearly the leading IBCA bank with respect to these features: its overall position was above average in relation to competitors; executives in Bank Three indicated a greater number of IBCAs for their Bank than did those in any of the other Banks; and the nature of those advantages were such that they were internally consistent with one another and with the Bank's strategic orientation (which will be explored further on), and were advantages which were sought by their competitors.

The relative positioning of the other three banks is more complex. While Bank Four executives indicated a relatively high number of IBCAs, these are not all in areas of importance. Bank Four executives also exhibited the highest level of variance amongst their response to the three relevant questions on the Preliminary Response Form (Questions 17,18 and 19). Bank Two executives place their bank marginally above Banks One and Four in their overall IBCA positioning. But Bank Two's
responses to question 19 resulted in the second lowest number of IBCAs per participant and the second highest variance amongst the four banks. Bank One had the lowest number of IBCAs per participant, but also the least variance concerning the number of IBCAs. However, though Bank One is heavily based in the retail area, executives showed a range of perceptions concerning its overall information-based position in the retail area compared to competitors.

Sections 10.3 to 10.8 will analyse the findings of the empirical study in other major areas, comparing these results in order to identify factors which might be related the differences in IBCA performance amongst the four banks. These factors are listed in Section 10.9

10.3 Strategic Orientation of the Firms

10.3.1 Sources of Evidence

The proper alignment of information-related developments to corporate and business strategy is made much more difficult if there are ambiguous messages about the means of achieving the firm's goals. In this study, those 'means' are exemplified in the strategic orientations of the organizations. Several sources of evidence were sought for identifying the strategic orientation of each of the firms: the intended strategy both of the 'Bank as a whole' and of the retail area was sought in participant responses to Questions 10 and 10 on the Preliminary Response Form, and followed up in interview. These were matched with the contents of the Strategic Planning documentation. The analysis of annual reports provided the CEO's perspective on the firm's realized strategy.

10.3.2 Executive Manager Strategic Orientations

Participant responses to the questions on strategic orientation of the banks is summarised in Figure 10.3 below. Participants were able to mark more than one orientation and most marked two or three. While it is possible to glean differences from the tabulated responses, chi-square tests were conducted as a measure of the differences between expected and observed frequencies. Though the cells from the original tables do not meet the normal criteria for a chi-square test, as some cells have a zero value, the significance levels provide some form of guide to the density of executive manager responses. A higher chi-square value, with a low \( P \) or significance
level indicated that the orientations were skewed and not evenly distributed. This skewness can be interpreted as a higher concentration of participant responses and, thus, greater agreement concerning the strategic orientations. The fragility of this measure is acknowledged and, thus, efforts were made to seek further evidence for strategic orientations.

The tabulated responses show that, for the 'Bank as a whole', in three of the four banks, one orientation was marked by all participants. In Bank One, this was 'Product or service differentiation', and in Banks Three and Four 'Overall cost leadership'. Bank Two was the only Bank where no more than half of the participants marked 'Overall cost leadership' and none of the orientations elicited an unambiguous response. Due to the more diverse nature of Banks Two and Three, greater diversity might be expected in their responses to this question, with less diversity amongst Bank One and Four participants.

Chi-square tests for 'Bank as a whole' provide some basis for ranking the level of agreement amongst Banks concerning strategic orientations: the highest level of agreement is evident amongst Bank Three participants, followed by Bank Four, Bank One and Bank Two.

Some participants in Banks Two and Three indicated difficulty in answering question 10 in relation to the retail area. This was because of their base in GHQ and lower level of familiarity with specific business areas. However, Banks One and Four were retail-driven with much less diversity. Thus, the results in part B of Figure 10.3 need to be interpreted with some caution. With this caveat, they indicated a different base of agreement. Bank Two executives exhibit the greatest agreement, followed in order by Banks One, Four and Three.

Interview-based evidence added a further dimension to this picture. While acknowledging that Bank One's predominant strategy in the retail area was 'Product and service differentiation', the Bank's Retail executive volunteered that this was difficult to achieve in the retail area at present, and that the predominant strategy of Bank One should be that of 'Overall cost leadership'. This was in fact the strategic orientation marked by all other participants who responded to this question in the other three banks.
A. Strategic Thrusts: Bank as a whole

<table>
<thead>
<tr>
<th>Executive Manager Participants</th>
<th>Bk 1</th>
<th>Bk 2</th>
<th>Bk 3</th>
<th>Bk 4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Product or service differentiation</td>
<td>4</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>18</td>
</tr>
<tr>
<td>2. Overall cost leadership</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>3. Segmentation or innovation</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>4. Growth</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>5. Alliance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>6. Some combination of these</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

Chi Square 'P' Significance range: .05 < .1, .1 < .2

B. Strategic Thrusts: Retail Banking

<table>
<thead>
<tr>
<th>Executive Manager Participants</th>
<th>Bk 1</th>
<th>Bk 2</th>
<th>Bk 3</th>
<th>Bk 4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Product or service differentiation</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>5</td>
<td>17</td>
</tr>
<tr>
<td>2. Overall cost leadership</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>3. Segmentation or innovation</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>4. Growth</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>5. Alliance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>6. Some combination of these</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>8</td>
</tr>
</tbody>
</table>

Chi Square 'P' Significance range: .2 < .3, .3 < .5, .5 < .7, .2 < .3

Though Bank Three's responses in the Retail area showed a considerable spread in the Response Form, in interview, participants stressed that the predominant orientation in the Retail area, as in other areas, was to be the lowest cost provider. This orientation provided a sound basis for then segmenting markets and providing a range of differentiated products and services to those markets. These strategies were linked back to the Bank's efforts to integrate its customer information.

Bank Four's 'Overall cost leadership' strategy was necessitated by its large retail customer base.
10.3.3 Strategic Orientations Drawn from Documentation

Bank One
Bank One's strategic planning documentation for 1989/90 indicated a greater emphasis in intended strategy on consolidation, with less effort to be put into diversification and expansion. The existing product range needed to be improved, while all operations were being reviewed to examine cost controls and seek productivity gains. The Bank was seeking to achieve product and service differentiation through improving the existing product range, and the servicing of high net worth individuals, company and government sectors. However, this strategy was dependant on the development of better customer and management information which was not yet in place.

Realized strategy for Bank One, as seen in annual reports from 1985 to 1989, supported the perception of heavy emphasis on the development of retail products and extension of the bank's activities in the business and commercial areas. Thus, these two sources support the executive manager data of reliance on the strategic orientation of 'Product or service differentiation', with an intended strengthening of cost-related consideration.

Bank Two
The overall intended strategy of Bank Two evident from strategic planning documentation was to increase market share and establish a competitive position by specialised markets or superior services, utilising the Bank's international position and network. At Business Unit level, a much greater focus on cost controls, with a leaner cost structure, was required.

Throughout the five years of annual reports analysed for realized strategy references, Bank Two's emphasis on 'adding value' to customers through a different and unique range of products and services is evident. However, as with the 1989/90 strategic planning documentation, the later reports of 1988 and 1989 stress the need to pay close attention to productivity and competitive pricing, particularly in the retail area.

Though Bank Two's intended and realized strategies in both the local and international spheres are seen to rely heavily on the bank's spread of activities and 'global network', internal networking systems were marked by only two of the four participants as providing the Bank with an information-based advantage over other firms. Bank Two's absence of a competitive advantage in the centralised transaction
processing centre hinders its ability to control and maintain costs across the range of its business units and their activities.

**Bank Three**

Bank Three's strategic planning documentation stressed the need for profitability in order to maximise opportunities and a continued emphasis on core banking activities. Diversification would only be considered where activities added value to customer relationships and optimised the use of the Bank's electronic distribution networks. The Bank sought to retain its status as a low cost provider in order to maximise customer and product profitability. The central strategic thrust of the Retail area was to enhance the Bank Three's market orientation. Key strategies focussed on developing products and services based on a more detailed profile and understanding of the Bank's customer base. This would enable the bank to identify market needs more quickly and respond to those in an efficient manner.

References to the Bank Three's strategies in its annual reports reinforce its objectives and leading position in cost containment and improved productivity, while enlarging its customer base through convenience and accessibility of its banking services. A better customer information base was enabling a greater emphasis on differentiating branches and services in the late 1980s. The combination of realized strategies evident in these reports is one of a base of overall cost leadership, from which differentiated products and services were developed to meet market needs as identified by the Bank.

Bank Three's intended and realized strategies appear to be supported by its information-based comparative advantages identified in question 19: ATM interchange links providing convenience and accessibility, integration of customer data permitting the development of differentiated products and services. These are supported to a lesser degree by the Bank's centralised transaction processing centre, consolidation of applications onto a uniform product base, and more extensive marketing and market analysis efforts than its competitors.

**Bank Four**

Bank Four's overall strategy as documented in its Board level statement was aimed at lowest cost delivery, diversification into related financial services, an enhanced image of customer service, and the establishment of improved remuneration systems for staff. The objectives for the retail area were underpinned by efficient processing in a widespread and effective distribution network. Strategic planning documentation
indicated that Bank Four's information systems strategies were not adequately aligned to these major objectives. These business objectives were not sufficiently clearly defined and delineated to facilitate better systems development processes.

Bank Four's annual reports contain few specific references to strategy prior to the 1988 report, and minimal references since then. In the 1988 report, improvements in productivity and continued development of the Bank's product base were inferred as strategic priorities. Bank Four's stated commercial objectives in the 1989 report were for profitability, growth and productivity. Its strategic thrust can be identified as the development of a range of products, based on an extensive electronic processing network and utilising electronically based products as far as possible.

The emphasis on cost leadership in the strategic orientations identified in the written responses of Bank Four executives is consistent with the strategies identified in Bank Four's strategic planning documentation and in the later annual reports. The predominant information-based advantages identified by Bank Four's executives hinged on the number and availability of ATMs, its centralised transaction processing centre, and electronic home banking. The first two of these are key requirements for Bank Four's low cost provider strategy.

10.3.4 Summary

Looking at each of the Banks as total entities, it is possible to identify strategic orientations and to gain some indication of the extent to which there is agreement on those strategic orientations. Bank One had been seeking 'Product or service differentiation', though the importance of 'Overall cost leadership' was being increasingly acknowledged. Three of the four executives from Bank One indicated that they had an IBCA in the 'Differentiated customer products' area, but none marked any advantage in the 'Integration of customer data' category.

Bank Two's strategic orientations for the bank as a whole were spread over five strategic thrusts, with none of these gaining support from all executives. In documentation, Bank Two's earlier emphasis on its unique products, services and global network was now being tempered by a greater focus on cost controls. Only one of the 18 IBCA areas elicited a positive response from more than half of the executive participants. This was the EFTPOS area where three of the four executives indicated that the bank had gained some 'positioning' and future advantages.
Bank Three appeared to have a high level of agreement regarding its strategic orientations for the bank as a whole, but, initially, a lower level for the retail area. Interview and document-based evidence provided further support for the strong emphasis on 'Overall cost leadership', in all areas of Bank Three's activities. The IBCA indicated in Figure 10.2 were in areas which the bank had identified as high priority areas in discussion of its business strategies.

The situation for Bank Four was more mixed. For the bank as a whole, 'Overall cost leadership' was marked by all executives and by four of the five for the retail area. However, because of the history of its customer base and the lack of diversity of its business areas, a greater degree of agreement regarding strategic orientations should have been expected from Bank Four than from Banks Two and Three. Though executives in Bank Four provided a wide spread of responses to areas of IBCA, two of those marked by most or all executives are developments which can underpin an 'Overall cost leadership' strategy.

Thus, the level of consensus and the consistency of strategic orientations varied amongst the banks.

10.4 Strategic Planning and Decision-making Processes

10.4.1 Sources of Evidence

The model of alignment developed from the literature analysis provided some support for the importance of strategic planning in business and information strategy alignment. Much of the literature focused more narrowly on information systems planning, and, in some cases, there was an implicit assumption made about the existence, nature and detail of organization-wide strategic plans. Evidence for this assumption was often not given. At the same time, researchers have seriously questioned the efficacy of planning processes where uses of information and information technology are of strategic importance (Runge, 1985; Earl, 1988a).

Data was sought from the case study sites in four areas related to strategic planning processes: the nature and extent of strategic planning processes, the outcomes from these processes, the handling of information and information technology related issues in planning processes, and the way in which areas of IBCA had been initiated.
and developed. The first two of these are reported in this section, while those specifically related to information developments are reported in Section 10.5, as is evidence for the centrality of information technology developments in annual reports.

Evidence for the nature, extent and outcomes of strategic planning processes came from a combination of sources: from written responses to questions 1 to 9 on the Response Form, answers to questions in Section D of the interview schedule, further discussions with strategic planning staff in each of the Banks, and examination of strategic planning documentation.

As would be expected of such large organizations, all firms had strategic planning processes in place. Cursory reading of the relevant parts of chapters six to ten could give the impression of considerable similarity in the processes followed by each of the Banks. However, they varied with regard to the length of their experience of organization-wide processes, the extent and nature of documentation, and the depth and pervasiveness of, and participation in, the process.

10.4.2 Length of Experience

While Bank One had agreed goals and a corporate plan, an annual planning cycle and meetings of senior managers, two participants expressed frustration in relation to the gap between agreement on overall strategic directions and their explication in a usable and useful form to business managers. As with Banks Two and Four, these processes were of relatively recent origin, and needed to be 'pushed down' into the business areas.

The evolution of Banks One and Four had provided little impetus for strategic and longterm planning. In both cases, organization-wide strategic planning had commenced less than five years ago. Prior to 1986, Business units within Bank Four did their own planning and any strategic formulation was a reactive process. Bank Four had had an information systems planning in process for over 20 years, but this had operated in something of a business policy vacuum. The result was that some information developments, while giving the Bank a technology-oriented image, had not been beneficial in cost-benefit terms.

Despite its position and size in the private sector, three of the four participants in Bank Two indicated that their strategic planning processes had, in reality, commenced only three years previously. Three of four Bank Two participants indicated their concerns
about the breadth and depth of the present processes, as these would take time to mature and permeate the organization.

In contrast, participants in Bank Three stressed their Bank's commitment to strategic planning from the early 1980s, though the nature of that planning had changed in the past three years. Bank Three's strategic planning processes were seen as a major strength by all participants. Strategic planning at GHQ level was over ten years old. At the divisional or Business unit level, such planning had commenced with the creation of the divisional structure five years previously.

10.4.3 Strategic Planning Scope and Participation

Each of the Banks operates on an annual and rolling timeframe that includes initial release of organization-wide guidelines, usually around February/March, and formal and complete submission of the Strategic Plan to the Board by June/July each year. In each case, this process involves some form of Executive Committee involvement and iteration with Business units. In the large information intensive firms which constitute a part of this study, the IS/T Manager was part of that Executive Committee and, thus, an active participant in the strategy formation process. However, there are differences in the scope and nature of the process itself amongst the four banks.

As discussed in Section 6.2.4, Bank One's Strategic Plan could not be categorised as providing a long or even medium term strategic planning framework. The Plan is a short-term document reviewing the activities of the previous 12 months and developing objectives for the next 12 months. Though there is some iteration with Business unit managers, business unit objectives are stated in very general terms and lack a strategic focus. Where there is specificity, it is operational and tactical, rather than strategic in nature. Responsibilities for implementation are not clearly indicated. The process appears to be cursory rather than integral to the Bank's activities.

Bank Two's Strategic Plans operated on a three year planning cycle, beginning each year with a 'strategic review', 'strategic guidelines' and projected economic scenarios. After initial Board approval, these are submitted to Business units who use them as the basis for their plans, which are then submitted up through the organization.

Strategic planning processes in Bank Three operated in a three year time frame for financial projections and capital expenditure, and a five year perspective for broader
economic and strategic parameters. The process involved the development of a 'letter of strategic direction' to all units, which provided the basis for Business units to review existing strategies and initiatives and develop new plans. These were considered at a wide-ranging strategy conference in March each year, involving all GHQ and Business unit heads. A further process of iteration followed at Business unit level, and between GHQ and individual Business units, until Board endorsement in June. In the strategic planning processes of Bank Three, emphasis was placed on Business unit plans addressing only two or three strategic issues, which linked those at GHQ level and the internal Business unit discussions. As with Bank Two, different Business units had different levels of expertise in strategic processes.

A topdown Bank-wide strategic planning process had been initiated in Bank Four in 1986. Between 1986 and 1989 this began its cycle in November each year with the monitoring of performance related to the previous year's plan. Input from Business units took place from February and the completed Plan was ready in June. This then operated as the first year of a rolling five year plan.

The strategic planning processes of Bank One were the least developed in terms of their timeframe and scope, while those of Bank Three appeared to have the longest timeframe and the most extensive involvement of the Bank's staff. In Banks Two and Four, considerable improvements in planning processes had taken place in the past three years and these were continuing. The IS/T Manager was part of these processes in all firms. Differences amongst the firms related more to the quality and experience of strategic planning processes than to the involvement or non-involvement of the IS/T Manager in those processes.

10.4.4 Strategic Planning Documentation

The nature and extent of strategic planning documentation varied amongst the Banks. As access was not obtained to the full range of Bank Four's Board level documentation, this section will refer only to that of the other three banks.

Bank Two had the most extensive set of strategic planning documents for 1989/90 and Bank One the least extensive. The latter consisted of 63 pages for the whole organization, while that of Bank Two comprised over forty volumes and necessitated a 46 page manual for Business units on how to prepare their plans.

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Bank Two's strategic planning documentation indicated that there was a complex and detailed planning process in place which was highly structured and required lengthy instructions. Though these plans resulted in extensive documentation, they represented statements of intent, without clear indications of timeframes and specific individual and unit responsibilities.

The form and format of the Plans for Bank Three's Business units were not prescribed, though all Plans were required to have certain elements. In 1986-7 the Bank had shifted its emphasis from extensive written strategic plans covering all areas to a focus on identifying a small number of key issues confronting particular areas requiring strategic formulations. This was seen as a process which was now less formal, more flexible and more issues oriented than previously. Timeframes and specific individual and unit responsibilities were indicated.

Though Bank Two had the most extensive documentation, this may not indicate the highest level of utility in strategic thinking or strategic decision-making. It may be that firms, particularly large firms, need to go through several phases of strategic planning in order to gain the experience necessary to discard some processes and requirements, to develop a sharper focus for their plans, and to ensure that implementation arrangements are in place and can be monitored.

10.4.5 Strategic Planning Process Outcomes

The first eight questions on the Preliminary Response Form sought participant reaction to a series of statements related to the adequacy of strategic planning processes. These questions had two purposes: to identify participant perceptions concerning the level of adequacy of strategic planning, and, secondly, they were a measure of the extent of executive manager agreement. The means for each of the statements ranked on a five point scale are listed in Figure 10.4 below. The average of the means for each Bank is listed in the last row.

Examination of the means only could lead to the conclusion that Bank One has the most adequate strategic planning processes, followed, in rank order by Banks Three, Two and Four. Based both on a review of Bank One's strategic planning documentation and on the interview evidence from executive managers (including the head of Bank One's Strategic Planning group), there are considerable deficiencies in Bank One's processes and outcomes. One explanation is that, in completing their responses to these questions, Bank One executives were not as aware as they should
have been of what constitutes sound strategic planning. They had an overly positive view of the adequacy of their present processes, particularly when compared to those of their major competitors. This could be due to acknowledged lack of experience in organization-wide strategic planning.

Figure 10.4 Strategic Planning Process Outcomes: Means

<table>
<thead>
<tr>
<th>Strategic Planning Process Outcomes</th>
<th>Bk 1</th>
<th>Bk 2</th>
<th>Bk 3</th>
<th>Bk 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Strategic planning (SP) woven into management</td>
<td>4</td>
<td>4.2</td>
<td>3.8</td>
<td>3</td>
</tr>
<tr>
<td>2. SP seen as major component of CEO task</td>
<td>4.7</td>
<td>4</td>
<td>4.2</td>
<td>4.4</td>
</tr>
<tr>
<td>3. SP purposes identified and explained</td>
<td>3.5</td>
<td>3</td>
<td>3</td>
<td>2.8</td>
</tr>
<tr>
<td>4. SP systems recognise uniqueness of Bank</td>
<td>4.2</td>
<td>4.2</td>
<td>3.4</td>
<td>3.8</td>
</tr>
<tr>
<td>5. Balance in SP between intuition &amp; processes</td>
<td>2.5</td>
<td>2.7</td>
<td>3.2</td>
<td>3.2</td>
</tr>
<tr>
<td>6. SP focus but attention to current operations</td>
<td>4.7</td>
<td>3.7</td>
<td>4.2</td>
<td>3.8</td>
</tr>
<tr>
<td>7. Careful attention given to implementation</td>
<td>2.7</td>
<td>2.7</td>
<td>2.6</td>
<td>2.2</td>
</tr>
<tr>
<td>8. Capital allocations linked to SP processes</td>
<td>3.2</td>
<td>3.5</td>
<td>4</td>
<td>3.4</td>
</tr>
<tr>
<td><strong>Average of the Means</strong></td>
<td><strong>3.7</strong></td>
<td><strong>3.5</strong></td>
<td><strong>3.55</strong></td>
<td><strong>3.3</strong></td>
</tr>
</tbody>
</table>

A somewhat different picture emerges when the variance between the managers in each bank are examined (see Figure 10.5). Executives in Bank Three stand out with a much lower standard deviation of the means for questions 1 to 8 than their three competitors. Bank Four comes in second, followed by Banks One and Two. This appears to indicate that Bank Three executive managers share a considerably greater degree of agreement about the strengths and weaknesses of their firm compared to those in the other three banks.

The three areas of the greatest difference between Bank Three and the other three banks are in questions one, three and five. These relate firstly to the pervasiveness of strategic planning (question one), the identification and communication of strategic planning purposes, and the balance in planning between intuition and formal processes. Bank Three executives share a much greater understanding of where their bank is positioned with regard to these very significant attributes, than do their competitors.


10.5 Information Technology and Strategic Processes

10.5.1 Development of IBCA

At interview, executives were asked to describe how the two strongest areas of information-based advantage they had marked in question 19 had come about: what had been the process for their initiation and justification? These questions sought to identify whether these information-based advantages had developed and been implemented as part of the bank's normal planning processes, or whether they had bypassed these.

A consistent pattern emerged from the four Banks: about half of the IBCA initiatives had evolved in some form as part of the Bank's organization-wide processes, while the other half were initially individual initiatives which were championed by particular managers. The more salient factor, though, was each Bank's experience in organization-wide strategy formation processes, and the form that that process had taken.

Executives in Banks One and Three claimed that ATM developments were part of regular planning processes, though in Bank Four, these were 'Information Systems' rather than organization-wide planning processes. Despite their level of formality and
complexity (or perhaps because of it) Bank Two's limited IBCAs had arisen in largely ad hoc mode. EFTPOS developments were given as an example of championing by an individual, based on a one-off business case being made. (With hindsight, the estimates for the business case were wildly optimistic).

Bank Three's recognition of the need for a new core system became evident through that Bank's planning cycle, though the form in which it was developed was attributed at least in part, to the later championing of one individual in the retail banking systems area. In other areas, 'skunkworks' were tolerated and even encouraged in Business units, though capital expenditure for developments would require Board level approval. Executive managers in Bank Three were of the view that their current planning processes assisted, rather than hampered, information-based strategic developments.

Though there are always reservations about reliance on memory and hindsight, in each Bank in this study, executives who had been with their Bank for more than two years gave a consistent representation of how key information-based developments had come about. These arose from a combination of evolution from strategic processes and significant championing by individuals. It appears that strategic planning processes can enhance such developments, provided that these are not too rigid in form and format, and that the culture of the organization is conducive to some element of innovation and risk-taking.

10.5.2 Information Technology Considerations in Strategy Processes

Analysis of strategic planning documentation indicated considerable recognition for the role of information technology, and to a lesser extent, information, in the core business activities in each of the banks. The formality and depth of the references to I & IT varied between the banks.

Bank One's Strategic Plans made substantial references to I & IT and planned business developments were dependant on information systems developments. However, there was no overall longterm plan for the development of Information Systems nor any clear indication of the ways in which the information developments related to business units. Bank One's documentation did not clarify roles and responsibilities between the Information Systems group and the business units, and there was no timeframe indicated for the achievement of I & IT-related business objectives.
In interview, Bank One participants had differing perceptions of the extent to which I 
& IT figured in strategic planning processes. These ranged from the IS/T Manager's 
view that I & IT had significant mentions through to the strongly held view that the I 
& IT area was not adequately operationalised in planning processes. Those 
references which were there emphasised operational rather than strategic 
developments. Business unit plans suffered from having lack of access to IS 
planners as part of their work groups.

In contrast, the guidelines for GHQ and Business unit strategic plans in Bank Two 
required all plans to include a section on 'Technology Plans', in addition to proformas 
indicating systems implications for each business strategy and cost and expenditure 
estimates for major projects. In addition the various IS groups submitted their group 
plans as part of the organization-wide process. Bank Two showed clear evidence of a 
commitment to incorporate technology planning as part of strategic planning 
processes, with technology requirements emerging as a part of business planning 
processes. Revised procedures for the IS/T management process had been introduced 
in the second half of 1988 to overcome the previous piecemeal approach, where 
technology planning was undertaken on an 'occasional basis', resulting in inadequate 
alignment of business and information strategies.

In the 1989/90 Plans, technology was identified as one of three areas where there was 
a need to develop more explicit plans. The Bank sought to develop its technological 
base so that it was capable of adjusting to frequently changing needs without 
involving long development lags and incurring greater expenses. New technology 
management concepts called for the initial technology planning to be carried out 
within the planning units of business units, with assistance from technology units as 
required. Implementation of these plans would normally involve adherence to one of 
the bank's agreed architectures. In interview, executive managers indicated that 
though the 'dovetailing' was still in its early phases, business units had begun to 
recognise and quantify their technological requirements at a much earlier stage.

In Bank Three's strategic planning documentation, the role of I & IT in achieving the 
Bank's objectives was a prominent feature, with references to information systems 
and technology integrated throughout the plans. Overall strategic directions required 
that Bank Three remain at the forefront of the 'profitable application of technology' in 
order to strengthen the low cost provider strategy, and increase customer-dependence 
on a range of superior technologically-based products and services. Bank Three's
plans identified its I & IT-based strengths and the significance of IBCA they had so far developed. Ownership of, and responsibility for major IS/T projects remained with the Business units, with the Information Systems group acting as a service provider for user units who paid for that service.

Though Bank Three's strategic plans had the longest horizon of the four banks, Bank Three's IS/T strategic plans lamented the fact that this timeframe was not long enough for the IS/T area. The mission and objectives for the IS/T area were clearly stated in that group's plans and focussed on satisfying the needs of user customers (Business units) by exploiting technology to provide effective and efficient information systems and services.

In interview, Bank Three executives uniformly stated that responsibility for I and IT planning was very much the province of business managers. Major IS developments were seen as being driven by the business, with projects headed by managers from the business units. In the early 1980s, the need for a 'Technology Strategy' had been recognised within the Bank. This had resulted in a conscious effort to have a greater number of high level and well performing middle level executives exposed to technology so that they would be more technologically literate than their peers in other banks, and able to take greater responsibility, with the requisite business focus, for IS/T developments.

Though access to the complete range of Bank Four's Board level strategic planning documentation was not obtained, examination of the January 1990 Systems Strategies 1990-1995 (SS 1990), provided an excellent perspective through which to view Bank Four's change processes in the IS/T planning area. The fact that this Board-level document had been produced indicated the commitment of Bank Four to seeking better alignment of business and information strategies. SS 1990 readily acknowledged that the Bank's business objectives were generally not clearly defined and that there was a need to ensure that a common understanding of strategies existed. This had resulted in systems requirements focussing too much on current issues and short term projects, with insufficient return, risking failure to generate 'competitive advantage' in the longterm. In the past, Bank Four's IS/T planning had not taken into account overall corporate priorities, and had not been integrated with business strategy at either corporate or Business unit levels.

Executives of Bank Four were in considerable agreement that, in the past, strategic IT developments had been technology-led rather than business-led. References to IS/T
planning processes and documentation had been implicit and oblique rather than explicit. The development of SS 1990 and a new senior appointment in the IS planning area were referred to as indicators of changes in the way in which IS/T planning was undertaken in Bank Four.

Thus, a consideration of the way in which information technology was covered in strategic planning processes revealed superficial similarities, but some real differences between the banks. Drawing both on the analysis of strategic documentation and on the interview responses of executive managers, it is possible to diagnose the current situation of each of the participant banks. However, this situation for each bank is as much an indicator of the state and stage of its planning processes as it is of the bank's information systems and technology developments.

Bank One is clearly a laggard in this area, with short timeframes, and little specificity of plans and implementation responsibilities. Banks Two and Four are both seeking to turnaround their deficiencies in the IS/T planning area: Bank Two because of lack of planning across its Business units and Bank Four because of the recency of its organization-wide planning, the need to expand timeframes and to ensure IS/T developments are business-led, rather than technology-led. Bank Two commenced their turnaround phase before Bank Four, but both are following parallel paths. Bank Three has not significantly shifted its developmental processes in the IS/T area, as, in major ways, they already model the directions and thrust of Banks Two and Four.

10.5.3 Centrality of Information Technology in Annual Reports

In Section 4.7, it was argued that the annual reports of firms provide a useful window through which to observe the evolution of strategy and a CEO perspective on the relationship between strategy and information technology. This section summarises and compares the results of the analysis of IT phrases in five years of annual reports in all five banks (See Figures 10.6 and 10.7). The aim of this analysis is to identify further sources of evidence which may illuminate the strategic importance, or centrality, of IT to the case study firms. Implicit in this approach is that a greater frequency of references to IT, provided they are not negative references, would be expected to indicate that the firm views IT as a positive contributor to its business, and of central importance.

Over all of the annual reports, Bank Three has the highest number of mentions of IT phrases in its annual reports, followed by Bank Four, with Bank Two having the
lowest number of mentions. As these results could have been a factor of the length of annual reports, a further series of measures were developed as indicated in Figure 10.6. On each of these measures relating to the concentration of IT phrases, Bank Three has the highest score, with phrases per paragraph, being shared with Bank Four. Bank Four is placed second in three of the other five measures.

**Figure 10.6** Concentration of IT Phrases in CEO Letters

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Averages from 1985-1989</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bk 1</td>
</tr>
<tr>
<td>1. Total raw number of occurrences</td>
<td>144</td>
</tr>
<tr>
<td>2. Number of IT phrases</td>
<td>29</td>
</tr>
<tr>
<td>3. Length of letter in paragraphs</td>
<td>182</td>
</tr>
<tr>
<td>4. Phrases per paragraph</td>
<td>0.17</td>
</tr>
<tr>
<td>5. Number of paragraphs with IT phrases</td>
<td>21.2</td>
</tr>
<tr>
<td>6. Percentage of pars with IT phrases</td>
<td>12</td>
</tr>
</tbody>
</table>

Figure 10.7 summarises the nature of the IT phrases over the five years. Only three of the five banks referred to IT in relation to the financial performance of the bank. Banks Three, Four and Five make mention of IT expenditure contributing favourably to financial performance, while IT expenditures were mentioned neutrally in this context by Bank Three twice over five years.

The largest number of IT phrases for all banks occurred in relation to the references to past events, particularly investment in IT to offer products and to change production processes or the economics of production. Bank Three’s reports were the only ones which were above the mean for both of these categories. The very high number of references in the category 2.1 for Bank Four hinged on repeated mentions of particular technology products in some years, particularly 1985.

Bank Three does not seem to be reticent about providing some details of internal developments. This Bank has a disproportionate number of references in the categories 2.4 to 2.7 which signal or report changes and developments in the Bank’s information services infrastructure. All but one of Bank Five’s ‘repositioning’ references occurred in the 1988 and 1989 annual reports. It is interesting to note that Bank One has very few references in the ‘Future Outlook’ category.
Figure 10.7  IT Phrases in Bank Annual Reports

<table>
<thead>
<tr>
<th>Context and Nature of the Phrase</th>
<th>Totals from 1985-1989</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bk 1</td>
</tr>
<tr>
<td>1. Financial Performance</td>
<td></td>
</tr>
<tr>
<td>1.1 Neutrally stated IT expenditure</td>
<td>2</td>
</tr>
<tr>
<td>1.2 Favourably stated IT expenditure</td>
<td>9</td>
</tr>
<tr>
<td>1.3 Unfavourable stated IT expenditure</td>
<td></td>
</tr>
<tr>
<td>2. Major Event of the Year</td>
<td></td>
</tr>
<tr>
<td>2.1 Investment in IT to offer products</td>
<td>80</td>
</tr>
<tr>
<td>2.2 Investment to change production/prodn econs</td>
<td>38</td>
</tr>
<tr>
<td>2.3 IT executive change</td>
<td>1</td>
</tr>
<tr>
<td>2.4 IT organization/reorganization</td>
<td>4</td>
</tr>
<tr>
<td>2.5 IT consolidation, incl security</td>
<td>3</td>
</tr>
<tr>
<td>2.6 IT repositioning in the firm</td>
<td>1</td>
</tr>
<tr>
<td>2.7 IT repositioning in the industry, alliances</td>
<td>6</td>
</tr>
<tr>
<td>2.8 Health and safety considerations</td>
<td>1</td>
</tr>
<tr>
<td>3. Future Outlook</td>
<td></td>
</tr>
<tr>
<td>3.1 Investment in IT to offer products</td>
<td>11</td>
</tr>
<tr>
<td>3.2 Investment to change production/prodn econs</td>
<td>14</td>
</tr>
<tr>
<td>3.3 IT executive change</td>
<td></td>
</tr>
<tr>
<td>3.4 IT reorganization</td>
<td></td>
</tr>
<tr>
<td>3.5 IT consolidation</td>
<td></td>
</tr>
<tr>
<td>3.6 IT repositioning in the firm</td>
<td></td>
</tr>
<tr>
<td>3.7 IT repositioning in the industry</td>
<td></td>
</tr>
<tr>
<td><strong>Total occurrences</strong></td>
<td><strong>144</strong></td>
</tr>
</tbody>
</table>

From a qualitative perspective, Bank One regularly featured the delivery of products using IT in its annual highlights. The path of Bank Two’s IT developments can be traced with warnings concerning incorrect strategic decisions in relation to investment in IT in 1986, through to reorganizations in the technology area in 1988. In the most recent report, technology is seen to be an essential tool of the bank's strategy.
The importance of cost-effective investments in IT are a feature of all of Bank Three's annual reports, with the 1989 report indicating that retention of its competitive advantage required constant development of new systems and the upgrading of existing ones. Bank Three's IT phrases almost always appeared in the context of a particular business strategy. This is unlike the early heavy concentration of IT phrases in Bank Four's reports, where there was little attribution to strategy. Bank Five's annual reports revealed a major shift in the acknowledged role of technology and the management of information and data from 1987. These were aimed initially at improving productivity and a future source of competitive advantage.

In each group of reports it is clear that IT is central to the banks' delivery of products and services. Bank Three shows earlier attributions to strategies than do the other banks, with the later reports of Banks Four and Five making the link more explicit.
10.6 Information Problems and Systems Development Processes

10.6.1 Information Problems, Assets and Future Investments

Some simple indicators of the extent to which each of the Banks were dependent on information services and systems for the day-to-day operations and strategic orientations was sought in questions 13 to 16 in the Preliminary Response Form. However, as might have been expected, these revealed little differences between the firms as almost all executives in each bank indicated that the bank was dependant on these to a 'great extent'. At interview, several clusters of questions (Part E and G8) sought elaboration on this, and to identify the major information issues or problems facing the bank, its most important information resources or assets and areas for further investment. These questions were wide-ranging, with research interest focusing both on the content of the responses and on the extent of agreement amongst managers within a particular firm.

Bank One participants indicated different major problems facing the organization and there was consistent polarisation of responses between the IS/T Manager and two of the other executives. Major information problems in Bank Two focussed on customer and management information and the Bank's inability to deliver these at present. These were also seen as major information problems areas in Banks Three and Four. However, the difference between the Banks was that, in Bank Three's subsequent identification of information assets, four of the five participants indicated that the fact that a start had been made to overcome these problems was becoming a major asset. Bank Two's information assets presented a more dismal and disparate picture, while the only asset named by more than one Bank Four participant was its 'good technologists' who were particularly experienced in maintaining hardware.

Priority areas for investment in Banks focussed heavily on the area of improved 'customer information' for all but Bank Three. In Banks One, Two and Four it was the only area named by more than one manager. Bank Three participants gave a diversity of responses with only one area being named by more than one manager: that of 'executive information' with better access to business information in a more friendly and readily usable form. This was an area where changes were already in train in Bank Three.

Each of the Banks saw a more integrated customer information database as a key factor in gaining or maintaining their competitive advantage. Bank Three had
identified this area in earlier phases of its strategic planning processes and had invested resources to accomplish this. The other Banks were each seeking to make some progress in this area. Bank Three was moving into the area of improving its management information systems and services, which was the other area identified by most of the banks.

10.6.2 Systems Development Process Problems

In the latter stages of the Interview (Question G7), executive participants were shown a diagram of an Information Systems Development Process (ISDP) and asked to indicate which part of the process most urgently required senior management attention. The results are summarised in Figure 10.8 below. Participants could nominate more than one area, and some did.

**Figure 10.8 Information systems development problems**

<table>
<thead>
<tr>
<th>Problem</th>
<th>Area</th>
<th>Bk 1</th>
<th>Bk 2</th>
<th>Bk 3</th>
<th>Bk 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Conceiving developments: Bus and IS Manager</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Communicating between (1) and (3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Bus and IS Managers justification</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Communicating between (3) and (5)</td>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>5.</td>
<td>IS implementation, including Project Management</td>
<td></td>
<td>1</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>6.</td>
<td>Communicating between (5) and (7)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Post installation review, Benefits tracking</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Communication between (7) and (1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other areas suggested:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>All parts of the process</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Separate out 'Info Planning' and 'Prod'n Planning&quot;</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From this perspective, the predominant problem in the IS development process centred around the operationalisation of IS developments, particularly the ability of information managers to manage and complete projects within a reasonable timeframe. All areas were in some way identified by Bank One managers, while those in the other banks showed some concentration in particular areas. Banks Two and Three saw a greater need for the tracking of benefits than did their competitors. This does not necessarily mean that those in Banks One and Four already do this
adequately, but rather that their concerns were more basic at this stage. The IS development process in all four Banks was in need of considerable improvement.

10.7 Organizational Arrangements for Information Services

10.7.1 Sources of Evidence

Implicit in the extensive organizational literature is the notion of 'fit' between the organization's strategy and structure. In an information services context, the organizational arrangements for information services need to mesh with the organization's structure as well as facilitating the realization of strategy. These arrangements incorporate a cluster of factors related to the way in which the IS/T area and other information related groups are structured, their relationship to one another and to business managers and units, and the locus of responsibilities for information and information technology developments.

Identification of factors related to these organizational arrangements required a combination of data inputs. Specific questions of relevance were included in the Interview Schedule (Question B4 and most of Part G), though responses in other parts of the Interview overlapped with these and provided further background. In analyzing the contents of annual reports, particular attention was paid to references related to organizational and structural changes, as well as to IT phrases. Both business and information systems strategic plans provided considerable contextual material, as did other documentation provided by each of the firms, such as organizational charts and job statements, particularly for IS/T Managers.

10.7.2 Organizational Structures

The four banks in this study were in varying stages of evolution towards a divisionalised structures. Banks Two and Three whose operations were more diverse in both product and geographic terms, were further advanced in this process than were Banks One and Four. However, Bank Two was seeking to curb the excesses of too much and too rapid decentralisation and distribution of responsibilities which had taken place three years earlier.

Banks One and Four were predominantly domestic retail operations. Bank Four had undergone a restructure early in 1989, which had introduced a more divisionalised
structure with eight Business units. Bank One operated with three Business units, one of which, retail, was predominant because of its size and the Bank's history. Though Bank One participants indicated that the regionalisation of retail activities was a sound move, other parts of the Bank had not been sufficiently devolved to capitalise on this devolution.

Each of the four banks had some form of regionalised structure in place which had reduced the number of management levels prior to 1986. However, in these Banks, functions and responsibilities in key support areas were not distributed to the extent that they were in Banks Two and Three.

10.7.3 Information Services Structures

Though all banks had some form of centralised transaction processing, each bank had a complex set of arrangements for meeting its information resources, systems and technology needs. All had some form of IS/T unit at GHQ level, though the responsibility scope of these differed, and in some cases, was in the process of change.

In keeping with Bank Three executive managers' views that I and IT planning was very much the province of business managers, all IS projects in Bank Three were headed by systems managers from the Business units and every system was owned by a user unit. The GHQ IS/T area provided oversight of the centralised transaction processing centre and was contracted to undertake developments by Business units. These were those developments which had been approved as part of the organization-wide strategic planning process. At the time of data collection, Bank Three was in the process of introducing a new senior Management Information position and group at GHQ level to provide better support for senior staff and a more consolidated and visible information resources focus.

Bank Two Business units had their own 'systems shops' and the business units took responsibility for information planning at high levels. There were a number of IS/T oriented groups at GHQ level as well as the group responsible for overall technology developments. These arrangements had gone through several iterations and were continuing to do so. At the time of data collection, participants indicated that Bank Two had suffered from too much devolution of some responsibilities, resulting in technical incompatibilities and some destructive internal competition. This had hampered the bank's capacity to change and link systems and services across
Business units. (After the data collection process for this study had been concluded, Bank Two brought together all of its GHQ IS/T oriented groups under the one IS/T Manager).

Despite Bank Four's restructuring early in 1989, the IS/T area remained heavily centralised both in functions and also in systems development activities. There was little devolution of IS/T responsibility to Business units. Executives in both Banks One and Four both expressed concern at the lack of IS/T expertise in Business units and the way in which decisions concerning IS/T developmental priorities were made.

While none of the Banks would suggest that they had their organizational structure exactly right, Bank Three executives were most positive about the match between their organizational structure, strategic orientations they were pursuing and their organizational arrangements for information services. Essential decisions related to providing a centralised transaction processing system were made at the highest level and the planning process allowed for coordination of developments across Business units. However, at the same time, there was the maximum level of devolution of responsibility for developments and their implementation to Business units, who owned such developments.

The restructuring of Bank Two three years previously had meant that the element of centralised coordination required of a large Bank had been difficult to achieve. Embedded in the formulation of Bank Two's Technology Plans was the development of a series of architectures which would provide for a range of approved hardware and telecommunications options to suit the diversity and coherence required of Business unit developments.

It appears that in the case of these large information intensive firms, for whom information technology was the core technology underpinning a wide range of business activities, a separation was taking place between the management of the physical resources and the management of the products and services resulting from those resources. This separation enabled the more effective management and planning of appropriate information services. Concurrent with this, drawing on the terminology of one of the participants, was the need to separate out 'strategy and information planning' from 'production and operations planning'.

Essential to all of these developments were two other prerequisites: firstly, recognition of a range of internal information products and services to suit different
purposes, particularly in the Management Information area; and, secondly, placing the ownership of information services developments as close as possible to those who had business responsibility for their successful implementation and exploitation.

10.7.4 IS/T Manager’s Position

Much of the literature on the management of information systems and services focuses on the importance of the reporting relationship and level of the IS/T Manager. In large and information intensive firms this is but one factor in a series of complex arrangements.

In the four case study firms (and in Bank Five as well), the IS/T Manager was part of the Executive Committee. Though the exact responsibilities varied, each Manager had a remit which in some way encompassed information systems and technology, for the whole organization, but this did not extend to the content of the information or the informing process. Bank Three was developing its information services personnel arrangements to overcome the perceived gap between management information needs and the location and nature of the internal resources and expertise available to meet those needs.

When looking at the one industry area in this study, a more important factor appeared to be the way in which the strategy and strategy formation processes took place, their scope and participative aspects and the extent of consideration given to I and IT developments as part of this process. The executive positioning of the IS/T Manager and the reporting relationships for the IS/T group might be more a symptom rather than a cause of the centrality of I and IT both to a firm and to the industry of which it is a part.

10.8 Manager Education and Experience

Though the empirical study did not initially intend to examine the I and IT background of participating executive managers, this was referred to by participants in the first two interviews and was then incorporated into the Interview Schedule. In Banks Two, Three and Four, participants stressed the need for IS/T Managers to have a good understanding of the Banking business. An examination of the complex arrangements required for large firms to better align their business and information strategies makes this requirement obvious. However, because of the professional
orientation of technically-oriented managers, it was often difficult to find the mix of business, technology and management skills required.

Bank Three had adopted a deliberate policy of appointing a senior business manager as the head of their IS/T group, as such a person was more likely to have a sharper business focus. It was Bank Three's policy to ensure that all senior and high-performing middle level business managers had some experience of I and IT planning and project responsibilities. This had been the situation since the early 1980s and had provided at least a basic level of necessary technological literacy for senior business managers.

Bank Two's IS/T Managers had a mixed background of banking and technology. Bank Four had made an appointment to an IT-dependant business position of an experienced information systems manager and had more recently appointed a senior business strategic planner to work in the IS/T group on the Bank's information systems strategies. Two participants in Bank One lamented the lack of IS/T expertise in its Business areas and identified a lack of coherence between the Banks information and business priorities.

The more adequate alignment of business and information strategies would seem to require business and information managers with some overlapping expertise: business managers with an awareness and some understanding of information and technology matters, together with information managers who had a good understanding of business matters and a strong business orientation.

10.9 Alignment Summary Situation

Business and information strategy alignment in this study focused on the extent to which business and information strategies were supported and stimulated by information strategies. The realized information strategy of the firms in this study was seen as the position, number and nature of their information-based comparative advantages in relation to competitors. Bank Three was clearly the leading firm with respect to these features, and the relative positioning of the other Banks was complex.
The organizational factors where there are some differences between and amongst the firms are as follows:

1. Level of clarity, consensus and consistency concerning the strategic orientation of the firm

2. The length of experience of firm-wide strategic planning

3. The timeframe of firm-wide strategic planning

4. Strategic planning which focuses on critical issues

5. Participation in firm-wide strategic planning

6. Agreement on the strengths and weakness of strategic planning processes

7. Strategic planning documentation which identifies implementation responsibilities

8. Strategic planning documentation which can be used as an agreed plan of action

9. Strategic planning processes which acknowledge and link information services planning processes

10. Suitability of the firm's organizational structure in relation to strategic orientation

11. Suitability of the firm's decision-making processes for IS developments in relation to the firm's organizational structure

12. Resources being allocated to overcome identified information and information technology problems

13. A federated arrangement for information services with GHQ oversight and setting of standards, but where responsibility for information-based developments was with the implementers and users as owners

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14. Business managers with an understanding of and experience in the IS/T area

15. Information managers with a strong business focus

The present alignment situation can be summarised and diagrammatically represented in a four quadrant alignment grid, similar to McFarlan's 'Strategic Grid' (McFarlan, McKenney and Pyburn, 1983). However, in this case, all of the firms are in the 'strategic quadrant' and this grid is a further elaboration of aspects of firms in that quadrant. Figure 10.9 plots the firms in relation to one another on what appear to be two important indicators of business and information strategy alignment: the horizontal axis represents satisfaction with firm-wide strategic planning processes; the vertical axis is experience with firm-wide I and IT planning processes. The intersection of these indicators is similar to two of Weill's 'IT Conversion' factors: experience with IT, and a 'lower level of political turbulence' (Weill, 1988).

While acknowledging the present position of Bank Three, the situation in the firms is not a static one, with each drawing on their history and environment in their evolution as dynamic organizations. Some participants in the other banks commented that they believed that Bank Three under-invested in information systems and technology, and that other banks (particularly Banks Two and Five) could overtake it in three to five years. The planning, business, technological and structural developments taking place in other firms meant that they were positioning themselves to become the leaders within three years. Bank Two was putting in place impressive and incremental technological plans, while Bank Five had invested in a risky, though potentially very profitable, 'big leap forward'. However, because of the embedded nature of Bank Three's strategic planning and decision-making processes, this firm exhibited key features of 'institutional learning' (DeGeus, 1988) and should have the capacity to develop emergent strategies as required.

The extent to which the literature examined in Chapters Two and Three support the factors above will be examined in Chapter Eleven, together with a number of significant works published since the preliminary model was developed. Chapter Eleven will further develop emergent indicators for alignment and conclude this work with an analysis of its strengths and weaknesses as a research study, its contribution to the research base of business and information strategy alignment, and indicate areas for further research.
Figure 10.9  Present Firm Alignment Grid

Satisfaction with Strategic Planning Process

Low  High

Low  Emergent

Laggard

Firm A

Turnaround  Leading

Firm B

Firm D

Firm C

High

<table>
<thead>
<tr>
<th>Firm-wide</th>
<th>Satisfaction with Strategic Planning Processes</th>
<th>Experience with I &amp; IT Planning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firm A</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Firm B</td>
<td>Low-Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Firm C</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Firm D</td>
<td>Low</td>
<td>Medium-High</td>
</tr>
</tbody>
</table>
11. FINDINGS AND CONCLUSIONS

11.1 Discussion of the Results

The findings of the empirical study which explores business and information strategy alignment need to be discussed in the context of the literature-based organizational factors which were the input for the Preliminary Model of Alignment in Section 3.9. The literature analysis and empirical study together provide evidence to generate a series of grounded hypotheses related to the alignment of business and information strategies. The fifteen factors listed in Section 10.9 are grouped into nine headings and will be discussed in the framework of the three interlinked areas that formed the Preliminary Model of Alignment: strategy, organizational, and information services contexts.

Strategy Context Factors:

1. Clarity, consensus and consistency concerning strategic orientation
2. Nature of strategy formation processes
3. Output from strategy formation processes

Organizational Context Factors:

4. Agreement on organizational strengths and weaknesses
5. Complementarity of organizational structure to strategic orientation

Information Services Context Factors:

6. Top management consideration of information strategy
7. Structure and processes for information services developments
8. Business and information manager education and experience
9. Concern with information content

11.2 Strategy Context Factors

11.2.1 Clarity, Consistency and Consensus of Strategic Orientation

An overriding finding from this study is that in order for there to be business and information strategy alignment, the direction and focus of a firm's corporate and
business strategies, and hence developmental priorities, needs to be clear and to be understood. This understanding needs to shared at senior manager level both within the Group or Corporate Centre functions, amongst those at senior management level in business units and those who are developing information systems and services aimed at achieving business goals. Without this prerequisite, inappropriate choices are more likely to be made in the development and implementation of information strategy.

This finding, initially, seems obvious. However, texts in the management of information systems which address IS/T planning issues, usually make the implicit assumption that business strategies are well developed and available in a form which can be readily utilised by IS/T planners. However, this study has found that this is not necessarily so. Recent guidance in surfacing strategic planning assumptions (Henderson and Sifonis, 1988; Earl, 1989; Henderson and Venkatraman, 1990) support the importance both of clarity and of specificity of business strategy as key inputs to appropriate information strategy.

Analysis of different types of evidence for strategic orientation in the firms provided generally convergent perspectives of strategic choices within firms in the year of onsite data collection. However, in Banks One and Two, it was possible to detect a shift in documentation about strategy: in Bank One this manifested itself in a greater concern with consolidation and cost control in 1989; in Bank Two, a stronger focus on cost controls and productivity is evident from 1988. Consistency in strategic orientation, over a period of time, would enable greater opportunities for business and information strategy alignment. Support for the notions of clarity and consistency is found in the work of Hirschheim (Hirschheim and others, 1988) and of Lederer and Mendelow, published during the process of data collection for the empirical study (Lederer and Mendelow, 1989). In their interview-based study of 20 IS managers from a cross section of industry areas, Lederer and Mendelow concluded that unclear or unstable business missions, objectives and priorities presented difficulties in developing appropriate IS plans, as did the lack of communication of even well-defined plans from top management to IS management.

Related to the issues of clarity and consistency is that of consensus. Research findings on the importance of consensus amongst senior managers concerning organizational 'ends' and 'means' are ambivalent (Bourgeois, 1980; Dess, 1987; Wooldridge and Floyd, 1989). Evidence from the empirical study lent support for the importance of gaining some senior management consensus concerning predominant strategic orientations, as 'means' to organizational 'ends'. Where that consensus was
more evident, for the firm as a whole, there were more extensive and more strategy-supporting examples of information-based comparative advantage.

11.2.2 Nature of the Strategy Formation Process

Four aspects of the strategic planning process were important in the linking of business and information strategy: the length of experience of firm-wide planning, the timeframe of that planning, planning which focused on critical issues, and the extent of participation in planning.

Experience in firm-wide strategic planning seemed to bring with it a greater confidence in processes and might be a factor in overcoming the tendency to over-bureaucratize the planning process. This is supported by Hax and Majluf’s perspective that effective planning processes were likely to be related to competence and experience (Hax and Majluf, 1984). The strategy formation process has had a greater opportunity to permeate other than the top levels of management. Complex firms, such as those in this study, require greater planning competence. At the same time, there may be a better balance between analytical processes and intuitive judgements, as suggested by McGinnis (1984) and evident in Banks Three and Four (See Figure 10.5).

Sophistication in planning processes involved taking a future-oriented perspective (Rhyne, 1985), and this is consistent with the difference between firms, particularly between Banks Three and One, in the timeframe of their planning. In order to be effective, planning does not need to be comprehensive, but to be well focused and address critical issues in a timeframe at least in line with competitors and suited to the industry.

While all firms had what could be described as a ‘top down’ strategic planning process, participation in that process was the most extensive in Bank Three, while developments in this area were taking place in Banks Two and Four. All firms involved the IS/T Manager in that process and, thus, this study does not provide any further evidence for the efficacy of that involvement. However, it does support the contention that many of the differences identified in previous studies can be attributed to the moderating effect of industry differences rather than simply the involvement of the IS/T Manager in strategic planning processes. In large, complex and information intensive firms, the IS/T Manager is more likely to be part of the senior management team because of the importance of IT to that industry. In Lederer and Mendelow's
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