

REUTERS' LEADERSHIP IN THE FINANCIAL INFORMATION SERVICES
INDUSTRY: A CASE STUDY ON STRATEGY AND INFORMATION TECHNOLOGY

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SUMMARY

The importance of Information Technology (IT) in the corporate world has increased dramatically in recent years, pushing up IT expenditure to unprecedented levels. However, in spite of the major IT investments that most companies have undertaken in the past, their return has been largely confined to cost and operational benefits as opposed to strategic or competitive gains. In fact, relatively few firms have been able to exploit their IT assets strategically, to improve their competitive position.

A growing interest has recently emerged on how to improve IT strategic exploitation and on the role of IT in competitive strategy. A powerful innovation in the use of IT in competitive strategy has been the deployment of Interorganizational systems (IOS), electronic networks linking the firm with its customers or its suppliers.

The purpose of the project is to increase the understanding on the crucial factors in successful strategic exploitation of IT in competitive environments. More specifically, given the strong potential benefits and risks involved, the focus is on the crucial factors in opportune and effective IOS deployment.

The project looks at the financial information services industry, taking Reuters as a case study. The major factors in Reuters' change are assessed and compared with the list of crucial factors for successful strategic IOS exploitation mentioned in the relevant literature, particularly Kanter and Runge.

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CHAPTER 1

INTRODUCTION

Competitive strategy and Information Technology

The importance of Information Technology (IT) in the corporate world has increased dramatically in recent years, pushing up IT expenditure to unprecedented levels, giving a higher profile to senior IT staff, spreading direct use of IT throughout the organization and in many cases redefining vertical integration using electronic links.

However, in spite of the major IT investments that most companies have undertaken in the past, their return has been largely confined to cost and operational benefits as opposed to strategic or competitive gains. In fact, relatively few firms have been able to exploit their IT assets strategically to improve their competitive position. According to Richard Heygate, a director of the Index consultancy: "The percentage of organizations using computers to gain competitive advantage is very low, less than 10%"¹ Several authors, like Benjamin and Rockart² and Gerstein and Reisman³, have identified IT underexploitation as a pressing business issue.

A growing interest has recently emerged on how to improve IT strategic exploitation and more generally on the role of IT in competitive strategy. Authors like Porter^{4 5}, Parsons⁶, McFarlan⁷, Cash and Konsynski⁸, Ives and Learmonth⁹, Notowidigdo¹⁰ and Strassmann¹¹ have laid the ground for the development of frameworks to assess and implement a range of competitive strategies that can be adopted using IT.

Interorganizational systems

A powerful innovation in the use of IT in competitive strategy has been the deployment of Interorganizational systems (IOS), electronic networks linking the firm with its customers or its suppliers. Using IOS firms can "integrate their information-related activities without disturbing the legal boundaries of the entities involved" (Bakos and Treacy)¹² and "give the corporation an edge over its competitors" (Cash and Konsynski)¹³.

Surmounting a competitor's advantageous position based on its timely deployment of an IOS can be extremely costly. American Airlines' Sabre reservation network linking it with travel agents and American Hospital Supply's order-entry network linking it with hospitals are successful examples of IOS-based strategic exploitation of IT. Both companies have attained such dominant positions in their respective industries that they were sued in the US for unfair competition.

Reuters

A major example of business success based on IOS deployment is Reuters PLC's evolution in the last 20 years. In the early 1960's, London-based Reuters was a prestigious but non-growing news agency. It enjoyed a solid reputation and its customers included virtually all major media organizations worldwide.

Today, while still holding its position as a leading news agency, it has increased its turnover by an order of magnitude and gone public with huge success by redefining their business.

Viewing themselves as information providers (as opposed to news providers) and targeting the financial information markets, Reuters transformed itself into a highly profitable and expanding firm, serving a wide range of business and media information needs. Significant tensions arose during this process between the 'General News' and the 'Economic Services' sides of the company. Its current strategic position leads them to expect more growth in the next few years.

In order to achieve this impressive turnaround Reuters exploited a combination of internal and external factors which were not taken advantage of by their competitors. The strategic exploitation of the company's computing and communications capabilities played a critical role in this process, particularly the successful deployment of Stockmaster and Monitor, Reuters' largest worldwide IOS projects.

The project

The purpose of the project is to increase the understanding on the crucial factors in successful strategic exploitation of IT in competitive environments. More specifically, given the strong potential benefits and risks involved, the focus is on the crucial factors in opportune and effective IOS deployment.

The project looks at the financial information services industry, taking Reuters as a case study. Reuters' selection as a case study is supported by the fact that IOS (Stockmaster, Monitor and Dealing service) played a critical role in the company's attainment of a dominant position in the industry. IOS with such characteristics are considered "still relatively rare, particularly those which have been in existence long enough and on a broad enough scale to have had a demonstrable impact" (Runge)¹⁴

The major factors in Reuters' change are assessed and compared with the list of crucial factors for successful strategic IOS exploitation mentioned in the relevant literature, particularly Kanter and Runge (see Literature Survey). An introduction is made of the tensions between 'General News' and 'Economic Information'.

The project's approach is based on a longitudinal study of the change processes within Reuters and its environment (customers, competitors, suppliers, Government etc) in the time period of interest. Change is analyzed retrospectively, contrasting the company's ex ante ex post status. Structural analysis (Porter)¹⁵ is used to assess the company's strategic position in the industry.

Written sources included: official Reuters publicity material, internal documentation provided by the company, press articles, books about the company and financial reports. Data collection was conducted through a series of formal interviews and informal contacts. All interviews were conducted between April and July 1987 in the city of London. In many cases two or more subsequent interviews proved necessary with the same participant. The interview agenda followed a semi-structured format which included questions about specific IOS projects and general questions about the company. The intention being first to gather factual information and second to elicit the personal interpretation of the participant. A copy of the interview agenda is included in appendix B.

Those interviewed included Reuters senior directors, technical managers, marketing managers, former managerial staff currently outside the company and customers. Some of the participants were selected because of their direct involvement in IOS implementation, others because their current position inside or outside Reuters gave

insight into the company's strategic position and challenges. Some of the comments or quotes included in this project belong to sources contacted on an informal basis whose identity is not included in the list of interviews. A list of the key interview participants is shown in table 1. An organization chart of Reuters is presented in fig 1.

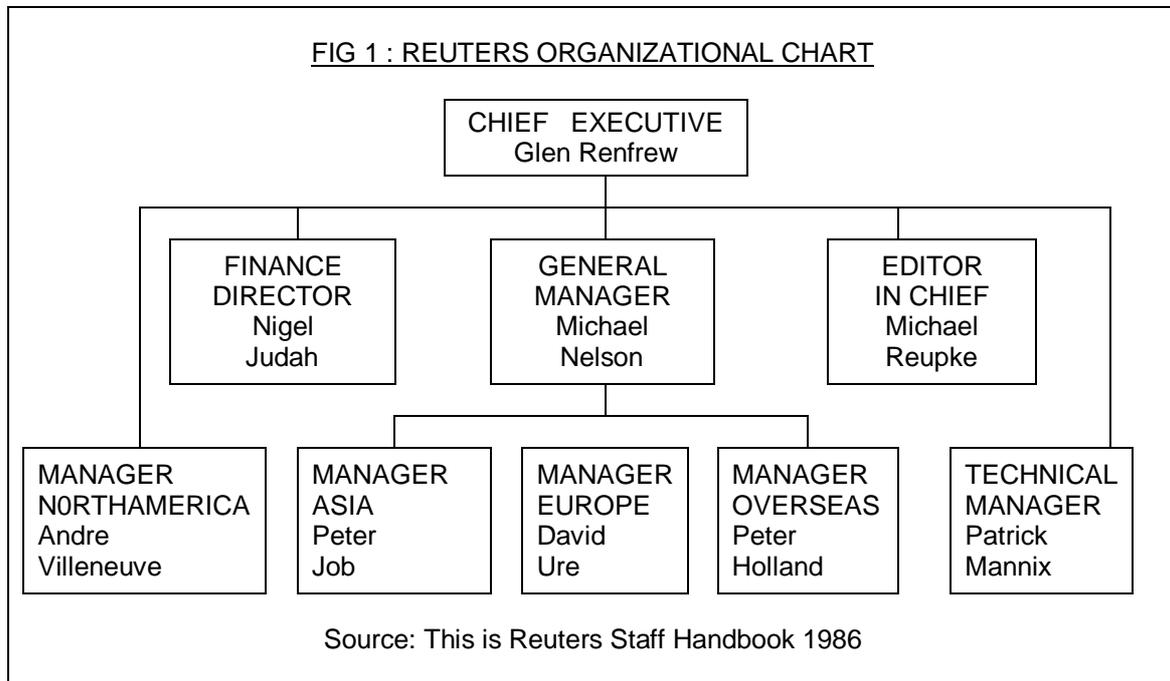


TABLE1: PARTICIPANTS IN INTERVIEWS

Michael Nelson	General Manager Reuters
Patrick Mannix	International Technical Manager Reuters
Michael Reupke	Editor-in-chief Reuters
David Brocklehurst	Marketing Manager Reuters Europe
Peter Benjamin	Special Projects Manager Reuters Europe
David Keefe	Assistant Mger Corporate Relations Reuters
Nick White	Former Deputy Technical Manager Reuters Europe Head of Group Telecommunications Midland Bank
David Whitehead	Senior Dealer Midland Bank

Literature survey

The findings of the project are contrasted (see chapter 6) with the relevant literature, particularly the conclusions of the studies by Runge and Kanter. In this section both studies are described in terms of their purpose, methodology, main conclusions and bibliography.

Runge¹⁶'s doctoral thesis is based on the observation that some companies recognize and exploit IOS ahead of their competitors.

The author's aim is to identify the eventual structures or processes that enabled them to successfully deploy IOS to gain competitive advantage. For this, the author uses a taxonomical approach. The taxonomy is a structured organization and decomposition of the factors that potentially contribute to a firm's ability to recognize and exploit opportunities to use IOS for competitive advantage. The research covered 35 operational IOS (that the author calls "TBIS" for Telecommunications Based Information Systems), two thirds from the financial industry.

Runge draws ideas from competitive strategy, management information systems and industrial innovation literature. He builds upon IT and competitive strategy concepts like McFarlan and McKenney's¹⁷ 'information systems strategic grid', Porter and Millar's¹⁸ 'information systems matrix', Benjamin's¹⁹ 'strategic opportunities matrix', Ives and Learmonth's²⁰ 'customer resource life cycle model', Parsons²¹ description of IT influence on Porter's²² competitive forces and value chain analysis, Wiseman's²³ 'strategic option generator' and Keen²⁴ and Konsynski's²⁵ IOS hierarchy and classification.

In the industrial innovation field, the author refers to Maidique and Zirger's²⁶ study of product innovation in the US electronics industry, Myers and Marquis's²⁷ measurement of characteristics in 567 successful innovations, Project SAPPHO's²⁸ similar study based on a pairwise methodology (taking similar innovations, one a success and the other a failure), Von Hippel²⁹'s study on the role of customers in innovation, Kotler's³⁰ analysis of the role of market research, Hull and Hage's³¹ study of organizational models and Schon's³² work on the role of "product champions".

Runge³³ argues that "(IOS) are a special case of industrial innovation" and found that five factors had "consistently and significantly contributed towards the successful implementation (of the IOS studied)" He cites as "enablers" 1) the role of product champions 2) customer involvement in the development process 3) marketing efforts 4) the IOS was an 'externalization' for the customers or suppliers of an existing internally used system and 5) the established IT project approval procedures were circumvented.

Kanter³⁴ studied 115 major innovations, not necessarily IT-based innovations, in US companies. The author argues that implemented innovative projects had in common the following attributes: 1) trialability (the project is pilot testable) 2) reversibility (the company can backdown from the project) 3) divisibility (the project can be implemented in phases) 4) familiarity (the project is consistent with past experience) and 5) congruency (the project fits the general direction of the company). If the project involves a "radical innovation" then the author maintains that it should be 6) marginal (it can slip unnoticed) or 7) idiosyncratic (it can be accepted and implemented by a few people with power). References in this project are also made to the popular management book "In Search of Excellence" by Peters and Waterman³⁵ and to the influential work of Michael Porter^{36 37} on Competitive Strategy.

Summary

This project assesses one of the major success stories of IT based innovation and contrasts its findings with the established thinking in the field. Its purpose is to increase the understanding of the crucial factors in successful strategic exploitation of IT in competitive environments with special focus on the crucial factors for opportune and effective IOS deployment.

CHAPTER 2

REUTERS: A BRIEF HISTORY

Setting up the foundations

Reuters has provided news and financial information services for over 130 years. In 1850, Julius Renter noticed a communications gap between Paris and Berlin, both major financial centres at the time. The cable linked Berlin with Aachen and Brussels with Paris, but there was no connection between Aachen and Brussels. Financial information was relayed by train. Reuters innovation consisted in using carrier pigeons instead of the train, cutting communications time to less than a quarter. A year later, the Aachen-Brussels gap in the cable network was closed and Reuters pigeons became obsolete.

Communications technology had forced Reuter out of business and that lesson shaped Reuters doctrine for the decades to come.

Reuter moved to London in 1851, following the submarine cable which linked England with the Continent and started to provide brokers in Paris and London with the opening and closing prices of the Stock Exchanges in both capitals. The new venture proved very profitable, on the basis of buying information in one point, transmitting it quickly to another point and selling it there at a profit. Stock market information was a natural product choice since it was cheaper for brokers to buy the information, rather than set up their own communications network. It is important to note at this stage that Reuters effectively started as a financial information provider and only became a news agency some years later.

Becoming a news agency

Soon after settling in London, Reuter realised that his cable network could be exploited to provide general news to the booming newspaper market³⁸. Within ten years of his arrival in London he was selling general news to all major British and Continental newspapers. Nationalization in 1870 of the private telegraph companies³⁹ barred Reuters from running its own cable network but proprietary coding techniques for transmission enabled the company to retain significant competitive advantage and by the turn of the century Reuter's business was booming⁴⁰.

Reuters entered the 20th century with a strong worldwide reputation in the journalistic world, based on its high standards of speed and accuracy. "Reuter" has passed into Chinese dialect as a synonym for "truth"⁴¹. The company was considered at that time by Adolph S. Ochs, publisher of the New York Times, in a position to "control or dominate the news of the agencies throughout the world"⁴²

In 1915 the Reuters board nominated Roderick Jones, Chief Correspondent in South Africa, as the first non family-member to head the company. By that time, the main thrust of Reuters activities had become the provision of news for newspapers.

Jones interests lay in the mainstream general news and he gave only limited support to the development of the economic services⁴³. A division started to develop within the company between the news reporting staff and those in charge of providing the profitable commercial services.

The imperative for change

Reuters continued during the 30's and 40's as a leading news agency, commanding high respect at home and abroad but the struggle to make ends meet financially was becoming progressively harder. Several financial rescue operations had taken place, including a controversial agreement with the British Government which called into question Reuters' independence from many quarters. By 1930, ownership of Reuters had passed to the Press Association.

The agency's strength (and indeed a significant part of its profitability) was based on its monopolies, granted under the international news market cartel. Once that cartel cracked, mainly under US pressure, it became impossible for a European news agency to make profits out of news alone⁴⁴. New sources of revenue had to be found. During the 50's, Reuters was an economically stagnant company, with newspapers revenues in decline, soaring costs of staff and communications, markets lost to newly founded national agencies protected by their governments and increased competition from the American giants AP and UPI.

Modern Developments

In 1963 Gerald Long became Chief Executive and reassessed the Agency's prospects for the near future. His main conclusion was that without a new source of profits, the agency would not be able to maintain its news standards or even stay in business⁴⁵

While Reuters strategy will be studied in chapter3, some of the financial results can be appreciated in table 2.

TABLE 2: REUTERS FINANCIAL RESULTS AFTER 1964				
	1964	1980	1984	1985
Revenue	3.5	90.0	312.9	434.1
Profit (Pretax)	-0.053	3.6	74.2	93.5

(In millions of pounds)

Source: "Reuters: a background and chronology of key events

In 1981 the general news and economic services reporting structures were combined "for the benefit of both, media and business subscribers"⁴⁶. The news staff was reassured on the occasion that "news services remain the central purpose of Reuters"⁴⁷ Nowadays Reuters' news services account for only 5% of annual revenues⁴⁸ and 8% of the customers⁴⁹ Reuters stopped referring to itself as a 'news agency' as early as 1975 and its current description of business mission reads: "Reuters central purpose is to provide news and information services of excellence"⁵⁰

A staff of more than 5000 works today for Reuters in 80 countries. Of these more than a third, belong to the technical structure. Reuters sells its news and information services to more than 15000 subscribers throughout the world, earning 85% of its revenue outside the UK. "The business services earn the company the great bulk of its

revenue"⁵¹ of which 60% corresponds to the money market services, 13% commodities, 12% securities and 8% is earned through the Reuters' subsidiary Rich.

The company went public in 1984 under a complex arrangement to protect its independence⁵². Reuters' market capitalization went from £ 0.8 billion at floating time to £ 3.5 billion in 1987⁵³ thereby strengthening further its position against unwanted bids.

The Managing Director and Chief Executive is Mr Glen Renfrew who took charge at the time of Mr Gerald Long's departure in 1981. The Deputy Managing Director and General Manager is Mr Michael Nelson. It is interesting to note that both men were heavily involved in Reuters strategic turnaround from the very beginning and were active participants in the development of a powerful technological base as a strategic asset. This leadership involvement will be discussed in chapter 6.

Market role

Reuters' role in the market place is embodied in the words of W. Wriston, chairman of Citibank for 17 years: "Information about money has become as important as money itself... it does not take any leap of imagination to see that the Reuters, the Dun and Bradstreets and the Dow Joneses with their terminals in our banks and in our customers' back offices, now have everything they need to look like a bank except a clearing mechanism"⁵⁴

The importance for the company of its dominant position on the foreign exchange information market has also been noted by Wriston who considers that, "the information standard has replaced the gold standard"⁵⁵ According to a Morgan Stanley report: "Reuters destiny might be providing data from all of the world's major markets and a system where buyers and sellers can trade..."⁵⁶

CHAPTER 3

REUTERS: DEVELOPMENT PHASES AND GROWTH STRATEGY

Introduction

In this chapter the major development phases in Reuters' evolution are described. The focus is on the project that represent the most significant milestones. Finally, the strategy underlying these projects and the growth of the company is analyzed.

Major development phases and key projects

The roots

Reuters' powerful drive towards industry leadership and profitability began in 1963 when Gerald Long became Chief Executive; but the roots of that process can be traced back as far as 1952. In that year, Alfred Geiringer was hired to reorganize Reuters' economic services.

Geiringer' s first strategic move was to break away from the Company's established recruitment practices. He started hiring graduates to help him revamp the dormant department, among whom were Mr Glen Renfrew and Mr Michael Nelson, who were later Chief Executive and General Manager respectively.

Nelson himself became manager of the economic services in 1958, when Geiringer left the company. A year later, Nelson was authorized for the first time, to reinvest part of his profits in his own department. This significant policy shift, triggered a process of growing rivalry between the economic and the news sides of the business.

In 1962, Reuters decided to run the distribution of the economic services in continental Europe independently. The service, to be headed by Renfrew, had previously been exploited through agreements with local news agencies. The decision was taken in light of the growing levels of investment required to compete in the high-tech financial information industry. The company believed that the profit margins would be too small for them to be shared with partners. This financial decision had strong strategic repercussions since Reuters was forced to build up its own technical and marketing capability to unprecedented levels. This move towards "do it yourself" was a key strategic choice that would be an important part of Reuters' strategy in the following decades.

When Gerald Long took over in 1963, the agency's financial prospects were uncertain due to the soaring operating costs of foreign reporting and the unwillingness of the owners (mainly the British newspapers) to invest in it.

The Stockmaster

By that time, a new technology for commercial price reporting was being introduced in the US. The Stockmaster, as the product was called, enabled a dealer to punch codes in one city and receive a price from another city in an average of 10 seconds.

This new technology challenged Reuters' capability of offering the crucial time-edge to its customers.

Before the introduction of Stockmaster, ticker tape was the predominant technology. Ticker tape was slow and offered only sequential access to data (ie. to get to a specific price, a lot of unrelated paper had to be sorted).

In 1963 Ultronic Systems Corporation (Stockmaster's manufacturer) tried to establish a business base in Europe but the move failed, mainly due to the high costs of transatlantic communications and the complexities of PTT lobbying. Nelson commissioned a survey to assess the market for the Stockmaster in Europe. The main conclusion was that the market was minuscule but Nelson, undeterred by the results of the survey (that he himself had commissioned), argued strongly that the market was being grossly underestimated. It could be said that this one commercial insight did more to influence the future of the agency, than any other after the war⁵⁷.

In that year Reuters started to transmit information using TDM, a new technology that allowed the use of several communication channels per circuit. The introduction of TDM, coupled with the availability of Reuters' large network and the agency's expertise on PTT agreements gave the company a lead. Reuters was therefore in a position to offer the Stockmaster service in Europe at a better speed-price ratio than the Stockmaster's manufacturer. To fully exploit this IT competitive advantage Reuters negotiated with Ultronic the right to market the product in Europe.

Stockmaster proved to be an important commercial success for the agency and Reuters' perception of its future development was profoundly influenced by the Stockmaster venture. According to Reuters official recollection, it became clear that "the company's business future would depend on computer services."⁵⁸

Going soft

Stockmaster and its successor Videomaster were pioneers in price reporting technology but after some time they proved to be too rigid in their design, making them difficult to maintain and customize to different customer needs.

In the early 1970s, Digital Equipment Corporation, a leading IT supplier, proposed to the company the use of software-based terminals to replace the hard-wired equipment in use. Peter Benjamin, at that time head of Reuter's technical department, was responsible for implementing the innovation.

This innovation enabled the company to cut its hardware costs by using the same standard device for all purposes and made easier the 'tailoring' of the service to subscribers, a major marketing gain. Reuters for the first time, started to develop its own equipment, instead of depending on (and paying royalties to) Ultronic. The Monitor project incorporated the described innovation.

The Reuters Monitor service

In 1971, the international economic scene presented a new market opportunity to the company. The Bretton Woods Agreement collapsed, letting the major world currencies find their value against each other according to supply and demand. Reuters' top management charged Andre Villeneuve (later to become Manager of Reuters North

America) with the task of evaluating the transformations in the banking industry and proposing a way for Reuters to exploit the new situation in the money market.

At that stage, there was no physical market place for money and the traditional method of telephoning dealers and reporting the average of their opinions on foreign currency value, proved inadequate for the new volume of business. The new, highly speculative, money market needed new standards of speed and accuracy.

Following Villeneuve's proposal and with Patrick Mannix (later to become International Technical Manager) as project manager, Reuters engaged itself in creating an 'electronic market place for money'⁵⁹ to fulfill the new and pressing needs of its customers. Reuters' unique asset base in the information supply industry was a crucial factor in its leading exploitation of the opportunity (see chapter6).

In the new service, to be called 'Monitor'⁶⁰, the 'market Makers' would insert their 'buy' and 'sell' prices for a given range of currencies into the Reuters' computer. The 'market traders' would be able to interrogate the computer through their Reuters terminals to buy or sell money. This innovative service reversed the traditional way of communications. Instead of Reuters calling the banks to find out their prices, they were themselves to 'call' Reuters' computer and store their prices in it.

Setting up the system and launching the product required a loan of over a million pounds, a huge debt for Reuters in those days. Legal problems concerning the carrying of third party traffic on Reuters' leased lines had also to be overcome in many countries to operate the service.

Critical subscriber mass was a crucial objective for the Monitor project to be viable, because the 'market makers' would not pay to store their prices, unless sufficient potential customers were looking at the data. Conversely, the 'market traders' would not subscribe to the service unless sufficient 'market makers' showed their competing prices.

The Reuter Monitor was launched on June 1973, with the largest publicity campaign ever undertaken by the company and massive recruitment of salesmen. Despite all hurdles and uncertainties, the Reuter Monitor Money Rates service started to take off. The number of Monitor subscribers rose from 13 to 11000 in its first decades⁶¹, increasing Reuters' revenue from 13 to 180 million pounds between 1973 and 1982. Monitor raised Reuters' name in the financial information supply industry and led the ratio of economic services revenue from 50% to 90% of corporate revenue.

The Monitor launching illustrates the metamorphosis that Reuters had undergone by that time. This involved, the sums invested in individual projects, the level of debt, the type of advertising that supported the launching of the product, the composition and recruitment of the sales force, the degree of personal involvement of the most senior executives in the company, the political PTT lobbying involved and the growing reliance on its technological infrastructure to achieve business aims.

The Reuters Monitor Dealing service

In 1981 Reuters pushed the frontier of dealing technology a step further when it launched the Reuter Monitor Dealing service. This innovation enabled dealers to actually buy and sell directly through the Reuters terminals without having to rely on the telephone. Transaction time was dramatically reduced from the standard telephone

time of 15 seconds to 4 seconds, thus providing Reuters' customers with the time-edge.

The dealing system required an investment of over 8 million pounds. Within 2 years of launching the new service, 37 out of the 50 world's top banks were contributing their data⁶². In 1983, Monitor contributed all the company's profits.

It is important to note the fast progression in the sums that Reuters was willing to invest in product development from one project to the other (the first Monitor project required under one million pounds). This progression constitutes a key element in the company's strategy and illustrates the change of attitude with respect to the previous decade. By 1981, Reuters was a full technological generation ahead of its owners, the British press.

Going public, going international

Monitor was already two generations behind in terms of computer technology.

The growing complexity of customer needs forced the company into a new major technological development drive. The investment needed for such a leap forward was the stated rationale for going public⁶³

Analysis of the complex process by which Reuters became a public company exceeds the purpose of this project; it is cited here only as a major milestone of the company's recent history and to show it as part of the chain of events that built up its present position.

Besides becoming a public company again, Reuters transformed itself in a truly international company, rather than a British company with an international news service. This position enhanced Reuters' capability of exploiting market differentials as expressed by the company: "With 80% of revenue outside the UK, Reuters is well placed to benefit from the strongest world growth points"⁶⁴

Analysis of Reuters strategy

Strategic objectives and choices

Reuters strategic objective is to become the standard 'one stop information shop' for a wide range of customers. Customer should be able to access current and historical information, manipulate data, deal automatically and access information from any vendor in the market⁶⁵.

The company's growth strategy was based on the conviction than "there was no money to be made in the media business"⁶⁶ and that an alternative source of profits should be looked for in the economic services side. According to some industry analysts: "The fact was that Reuters, with no equity capital and limited revenue had to decide between investment in new technology on the news side... or creating a retrieval service for money markets. One would save money, the other would make money"⁶⁷.

The strategic choice for the economic services was made and consistently sustained, much to the discomfort of some of the 'news people' in the company (see appendixA). This prospect was not alien to the agency, that had been founded as a business

information provider (see chapter2). According to the then Chief Executive Gerald Long, their aim was "to give Reuters back to Reuter"⁶⁸. The company defined itself as "the world's leading news organization and supplier of computerized information services"⁶⁹

A strong commitment to be in the forefront of computing and communications technology was at the heart of Reuters' growth strategy. Reuters' takes pride in its business mission statement of "having always laid great stress on using the most efficient and technically advanced systems available"⁷⁰ and on "the importance of technological advance"⁷¹. As mentioned above, the Monitor project was perceived as a "quest for (technical) independence"⁷²

First supplier

Central to the company's strategic thinking is the so called 'real estate desk top problem'. Customers do not want to replace multiple paper-based information sources by multiple screens on their desks. Therefore, the first supplier with a terminal in the customer's desk therefore gains significant competitive advantage. According to Reuters own assessment: "As is the case with most information products, we believe that the incumbent leader benefits from a substantial reluctance of customers to change sources in the absence of a dramatically better or cheaper service"⁷³

Based on this belief that displacing a previously established competitor requires the offer of substantial gains for the subscriber, in price and or in service Reuters engaged itself in a strategy of preemptive positioning, consisting on being the first on the customer desk.

A strong second selling marketing effort takes place after the initial subscription, in which the customer is encouraged to take as many services as possible using his Reuter Monitor. A considerable proportion of Reuters' profits come from selling additional terminals to its clients⁷⁴

One of the remarkable features of Reuters' marketing strategy in the Monitor project was the 'contributing fee'. This fee is charged to all contributors and is higher than the regular subscriber fee on the basis of the 'advertising value' of the service (see chapter4 Customer needs). The integration of large numbers of traders into the Dealing service will transform the Monitor service from a rates 'advertising' medium into a distribution channel for the contributors (see chapter 4 Customer needs). In that way, Reuters do business at both ends of the pipeline, charging sellers and buyers. Reuters' success in persuading the banks to join the network paying the 'contributing fee' is strongly related to its reputation and level of target audience. Reuters' competitors do not charge 'contributing fees' (see chapter4) .

Full supplier

The company's global strategy is based on an integrated approach to the supply of financial services, hence stressing its wider product scope and geographical reach as the main differentiating attributes over its niche competitors. The customer should be able to find Reuters to be either the leader or at least a strong player in every sector of the market.

A recent Reuters' move is the delivering of information from other vendors through its own network⁷⁵, enable the customer to have the best of both worlds through Reuters'

network: Reuters' full coverage and its competitors specialization. This move could consolidate Reuters' leadership position by removing a major switching incentive and therefore making market penetration even more difficult for its competitors.

Acquisitions and product line expansions have followed Reuters' strategy of consolidating its position as a 'full spectrum' supplier of financial services, as opposed to the 'niche' suppliers. Reuters has followed an acquisition strategy to expand its product coverage and its expertise in different sectors of the industry, consistent with the company view of the acquisitions of companies as acquisitions of knowledge⁷⁶

In January 1985 Reuters acquired Rich Inc. the leading US supplier of systems for dealing rooms. One year later it bought the Finance Division of Hovland Business Systems Limited, a software supplier, followed shortly by L.H.W. Wyatt Brothers Ltd., a supplier of voice communications systems for dealing rooms, with the declared intention of integrating their line of products with Rich's⁷⁷

One of the major moves in Reuters' expansion strategy was the control of Instinet Corp, a rapidly growing supplier of automatic stock trading services. Instinet's way of trading complements Reuters' traditional Monitor service and it is geared towards expanding Reuters' equity trading business.

Continuous innovation

At the heart of the company's strategy is the continuous expansion of product offerings to the customer. The pace of product innovation is intended to make the company move first in the learning curve and achieve "economics of experience" advantage (Porter)⁷⁸. The company thereby constitutes a moving target for its competitors who see their entry costs rising continuously.⁷⁹

A recent example is the project Newsbank, a large inhouse historic information database offered online to the customers.

This move is part of the company's search of new competitive opportunities by reaching further in its customers' value chain⁸⁰, in this case in the area of outbound logistics. The 'externalization' for customer use of existing internal information systems, is cited by Runge⁸¹ in his doctoral thesis on telecommunication networks and competitive advantage.

Adding value

Besides expanding its product line and consolidating its global coverage, Reuters is moving towards adding value to its products. Recent examples are a position keeping service, to allow foreign exchange dealers to recalculate automatically their book position and Abacus, a product to automatically identify arbitrage opportunities.

Reuters has also started to establish a presence in the historical database market to add value to the operation of its huge communications network. The acquisition of Finsbury Data Services Ltd. in November 1986, signaled Reuters push into the historical database market. This venture brings Reuters to compete head on with Dow Jones.

Reuters' aim to add value to its products will push the company's influence from the customer's desk into the customer's computer and can be the basis for more sophisticated products and a more pervasive influence within the client's value chain.

The customer will be faced with new switching costs in the need to adapt its organization to fully exploit the new products (eg train personnel, conform to specific standards). Furthermore, Reuters' strategic connection into the customer's computer could be exploited in order to transfer some costs to the customer by way of using the customers' computer storage or its intelligence and therefore protecting the company's power and cost-edge.

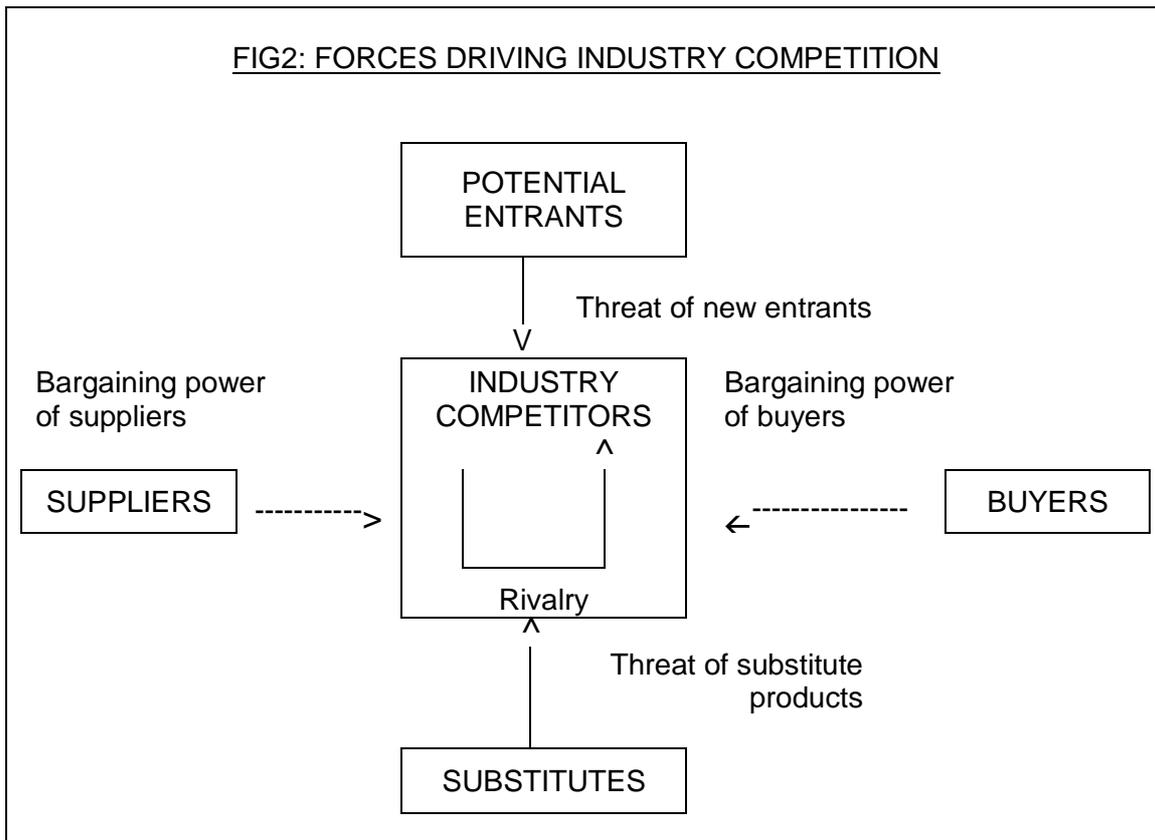
According to Patrick Mannix, Reuters' International Technical Manager: "In the next product generation new features will make it easier for subscribers to manipulate and mix data, download software, store data in a large scale, encrypt information and exploit developments in artificial intelligence"⁸²

CHAPTER 4

REUTERS: STRATEGIC POSITION AND CHALLENGES

Introduction

In this chapter Reuters' strategic position in the information Supply industry is studied along the lines of Porter⁸³'s model, of structural analysis (see fig2). The objective is to assess the strength of the company's current position, including its key vulnerabilities and major challenges for the future.



Industry analysis

Customers

Customer needs

Some of Reuters' customers are 'contributors' to the network, in which they feed their prices and quotations. The rest are 'subscribers' who use the system to monitor market prices and in some cases to trade online. The service has for the contributors an 'advertising' value since their prices are displayed to thousands of potential traders who otherwise would be unaware of their offers. As a growing number of subscribers join the Dealing service (see chapter3 for a description of this service) for online trading, the service will also have a 'distribution-channel' value for the contributors, since the network will be used not only to advertise but also to deliver the product. More than 2700 financial institutions worldwide contribute data to Reuters' network, including almost 100 Exchanges.

The service gives the subscribers the capability to 'shop around' in the international financial market and deal in real time, exploiting market differentials. This capability is particularly important in the 'non-floor markets like the foreign exchange in which no centralized physical trading place exists. The total number of Reuters' screens exceeds 100000 (including second-screens). A breakdown of subscribers per service is reproduced in table 3. About 61% are financial institutions, including the world's leading banks, 26% non financial business corporations, 8% media organizations and 5% Governments and international agencies⁸⁴

TABLE 3: REUTERS SUBSCRIBERS PER SERVICE 1987(E)

FOREX	16 000
DEALING	2 000
EQUITIES	6 000
BONDS	2 700
COMMODITIES	3 000
SHIPPING	400
ENERGY	900
COINS	700

Source: Reuters yearly report 6/1986

Customer choice

When facing their first choice of a financial information services supplier, customers seem to be primarily concerned by the content of the service⁸⁵. The number of different markets included in the service (eg foreign exchange, equities etc) and the level of coverage in each market (number of different offers covered) are the major parameters to evaluate the content. Customers preferences side with 'full spectrum' suppliers of financial information services, as opposed to 'niche' suppliers. Reuters is an integrated supplier whereas most of its competitors are niche players (see Competitors).

Network population, measured as the number of potential traders available through the system, follows as a major concern in customers' choice. This is because the customer wants to be connected to as many traders as possible in order to maximize value of the service. This is the prime consideration in the case of the contributors.

However, it should be noted that a contributor's selection of a service does not necessarily (even though it can happen as in the case of the US bonds market to be described below) preclude other competitors from its information. While Reuters offers the largest network available and hence commands contributors' preferences, its competitors do not charge the contributors for displaying their prices. This price incentive coupled with the multiple-feed facility that enables the contributor to type its prices once and have them stored in multiple networks, have led the major banks and financial institutions to contribute their data to multiple niche suppliers besides contributing to Reuters.

Equally, a subscriber decision to subscribe to a particular service does not necessarily imply ending any existing subscription with a competitor. In general subscribers accumulate sources of information rather than opting for one of them, especially since it is possible to access several networks through the same physical terminal.

The flexibility available to the customer in the selection of the information services he wants to subscribe to is an important element in the joining decision. Reuters' flexibility, in relation to the number of services the customer subscribes to, provides an enticing entry point for the customer into the Reuters' network where monthly fees can vary widely.

Customers put a high value on, the user-friendliness of the system, which plays an important role in ensuring staff productivity, in reducing lead times to exploit the system, in facilitating the spread of system use and in reducing training costs.

The availability of value added services like historical information, data manipulation, automatic dealing and third-party information will play an important role in the future in influencing customer choice as a growing number of competitors offer comparable information supply services. The Reuters Dealing service for instance, has hitherto no direct competition as a service adding value to the financial information provided.

Renewing service subscription is a decision influenced by the standards of reliability of the network, the accuracy of the information reported, the speed in reporting it and the degree of control over the format and later use of the information received that the supplier is willing to give to the customer.

Reuters was reported by some customers to be highly responsive in terms of reliability and accuracy but to be slower than its competitors in reporting and more rigid concerning the conditions of data supply.

Price sensitivity seems to be very low in the industry, both to select a service for the first time and to keep it, with the potential for a wide price spread between competitors⁸⁶. This characteristic may change in the future as the customer base comes to include more small and medium-size companies (a market considered "very important in terms of strategic growth"⁸⁷ by Reuters) since these companies may be more price sensitive in their service selection due to the higher significance of subscription charges in relation to total costs and the lower potential profit value of the service.

Switching costs

The imposition of switching costs on the customer, as a source of competitive advantage, is cited by McFarlan⁸⁸ in his analysis of strategic exploitation of IT resources: "(the firm integrates itself into the value chain⁸⁹ of its customers) through a series of increasingly complex and useful procedures that insinuate themselves into customers' routines"⁹⁰.

According to Runge: "Linking up with the customers...seems not to be a sufficient condition to exert influence over them, (the system must provide) capabilities which create a degree of operational dependency in customers"⁹¹. Switching costs for the customer derive from financial and organizational commitments to adapt his operating structure to the supplier's system.

The strength of Monitor as a competitive weapon can be classified on the basis of its operational characteristics: 'internal support, 'link up and 'lock in'⁹². Those subscribers who use the service to acquire information and select a price can be considered 'linked up' to the system.

Although the subscriber receives a valuable service, switching costs can be relatively low, compared to the 'lock in' situation described below.

The Reuters Dealing service was a first step towards 'lock-in' the customer to the system by creating switching costs, The 'lock-in' occurs when the customer discontinues an internal procedure and starts to rely on the system to perform that function, adapting in that way its structure to the system.

This is the case of the Dealing service, which takes care of transactions and book-keeping functions. Once the system has been integrated into the customer organization, costs involved in retraining staff and readapting the structure to switch out of Reuters Dealing to meet the new technical and organizational parameters of a new service act as switch deterrents. The considerable installation costs (eg financial expenditure, technological commitments, physical installation, staff training) involved in setting up the "client systems" (the market leader being Reuters subsidiary Rich) are part of these 'readaptation charges'.

A major Reuters' customer described Reuters' Dealing service as "the unavoidable standard for trading"⁹³. In Italy for example, where the Central Bank uses automatic alerts on its Reuters terminal to speed up management of the domestic money market, other traders have no choice but to get one too. In London, according to some analysts "dealers can't function if the system goes down"⁹⁴. There is no similar alternative to the Dealing service currently available to the customer.

Reuters' leading network population constitutes a switching disincentive for the customer (why switch out of the largest network if we want to be connected to as many traders as possible?). Switching out of the supplier with largest subscriber population is damaging in tens of market reach.

According to some estimates⁹⁵, a contributor in the foreign exchange market, switching from Reuters to Telerate, the biggest competitor, would lose more than 50% of its target audience. Among Reuters' stated future aims is the introduction of cheaper technology that would enable further enlargement of the customer base, to include medium and small companies and consolidate Reuters' network population advantage.

Reuters' wide service content cannot be replaced by any individual competitor, switching out of Reuters implies relying on a combination of multiple sources to provide the same information. This multiple sourcing arrangement would not offer any overall significant service advantage and may introduce coordination and compatibility conflicts, divided maintenance responsibility problems, organizational resistance to change and staff retraining costs.

Commercial switching cost are also faced by customers. The policy of renting its equipment, as opposed to selling it to the customer (as IBM did for many years before being sued under the US antitrust legislation) and the long term duration of contracts can create switching costs for the customer. Reuters' marketing policy of dealing simultaneously at two different levels with the customer (ie managerial and dealing room levels) also helps to raise the organizational effort needed to switch suppliers.

Customer power

In summary, the bargaining power of customer power vis a vis Reuters is low due to several industry characteristics: a) the high geographical and business nature heterogeneity of its client base, with their many different and sometimes conflicting interests and priorities that reduces the risk of organized collective pressure by groups of customers b) Reuters' sales are not highly concentrated on any small groups of customers c) Reuters' product is not a significant proportion of customers' cost and the perceived potential profit value of the service is very high d) switching cost are high and e) the risk of backward integration by customer is low due to the market perception of potential conflicts of interest (see chapter6) and the less-than-successful historical experiences (eg IMNET). No dramatic change in the level of customer power is foreseeable in the near future.

Suppliers

Purchasing policy

Reuters deals with two different kind of suppliers, product vendors (hardware and software of various types, communication lines etc) and data providers (like Exchanges or "feeding" intermediaries as ADP).

Reuters' product purchasing policy is based on purchasing wherever possible as opposed to develop internally. According to the company's own account "development effort is concentrated on those areas where is not possible to obtain the required price and performance from other sources"⁹⁶. The company constantly monitors new equipment and techniques coming into the market, experiments with them and eventually pioneers its early adoption in the industry. This open and pragmatic attitude towards technology has contributed to Reuters' success in managing technological evolution by always having a lead on the learning curve, according to Patrick Mannix⁹⁷ (see chapter6).

Supplier power

The bargaining power of computer and communications equipment suppliers is low, on the basis of Reuters considerable in-house development capability and technological know-how reinforced by its close relationship with key IT suppliers that give the company the information needed to bargain with its suppliers from a strong position. Conversely the IT suppliers may capitalize on the fact that some of their products are critical for Reuters' service (eg exchange processors) and that switching costs can be considerable (eg software reprogramming). This inherent bargaining power of the suppliers has hitherto been offset by the high value they assign to Reuters as a

prestigious customer and other factors like the multiplication of third party vendors and plug compatible manufacturers.

Communication services suppliers (ie. PTTs) hold a potentially stronger position over Reuters because of the degree of supplier concentration, the lack of large scale substitutes, the critical nature of the service for Reuters' business and the threat of forward integration (see New Competitors). The recent privatization moves may ease the pressure if competitive common carriers come into the market (eg Mercury). However, attitudes of large privatized PTTs (eg British Telecom) may change become more aggressive and profit-oriented, making the carrier more inclined to use its leverage to dent into Reuters' profits or even venture into the Reuters' business.

Data supply in the floor markets is an area of higher supplier power because of supply concentration in the Exchanges, the lack of substitutes for the needed data, the critical nature of the service for Reuters and the threat of forward integration (see New Competitors). Reuters has been successful so far in facing supplier power in this market with occasional showdowns like in the case of the London Stock Exchange TOPIC service.

Competitors

Introduction

No single challenger can match at present, the breadth of information offered by Reuters from exchanges worldwide. Its network and database provide real time quotes for 106 currencies, more than 37000 stocks and options, 3000 bonds, 135 commodities plus shipping and oil information.

Reuters' major competitors in the media market, Associated Press and United Press International did not follow Reuters' lead in the search for new sources of revenue. AP has by now launched a joint venture with Telerate and Dow Jones but its financial business is only 3% of its total turnover compared to Reuters' 95%.

Market segments

In spite of Reuters' extensive information services market coverage, strong niche players contest the company's position in every segment of the market. It is important to note here that the basis of competition is not price but service.

Competition is particularly fierce in the US, where historically Reuters never had substantial market share. This problem can be traced back to Reuters' joint venture with Ultronics (see chapter3) by which the company was largely kept out of the US market. Reuters' US strategy seeks both, to ensure the vital supplies of US data for its international customers and to bear pressure on the US companies trying to grow on the overseas market.

Telerate competes with Reuters in money market information and US bonds, Quotron and ADP in US equities, Dow Jones in financial news and Knight Rider in commodities and foreign exchange. In the 'client systems' market Reuters' Rich faces Datalogic and others. Only Reuters provides both information services and 'client systems'.

Telerate is today the biggest Reuters competitor in the foreign exchange market. Its technological innovations and its superior coverage of the US money market, established its current position alongside Reuters in dealing rooms. Telerate has today 48000 terminals worldwide compared to Reuters' 100000, but half of them are concentrated in the US. Telerate has less than 500 contributors compared with about 2700 for Reuters⁹⁸.

In the US bond market, Telerate has a virtual monopoly due to its exclusive pact with Cantor, Fitzgerald and Co., one the largest government securities broker in the US. Two private US companies, Network Utilities and Reveal Software, were bought in 1986 in order to strengthen Reuters' position in the securities market. Another move in the same direction was Reuters' agreement with MKI Government Brokers Inc. The company aims to erode the quasimonopoly of Telerate in US Government securities. This agreement will enable Reuters to distribute quotations of US Government securities to the 'primary dealers'

The equity price quote business in the US is dominated by Quotron Systems (80000 terminals) and ADP (55000 terminals)⁹⁹. In the UK the market is dominated by TOPIC, a service provided by the Stock Exchange itself. Reuters considers that "it may be many years before this is significant business for the company"¹⁰⁰

While each domestic market has well-entrenched suppliers of its own national stock price, there is no leader in the supply of international equity information. Reuters intends to provide a global equities service and a competitive domestic service in each major country. Reuters' existing client base may provide the entry point to the equity market which is starting to be dominated by the large players in foreign exchange and bonds.

Furthermore, the growing technological requirements involved in providing financial services will push up development expenditure to a level in which only the suppliers with a large subscriber base will survive, hence bearing more pressure on the domestic suppliers.

In the commodities market the leader is Knight Ridder, a provider of quotes, economic statistics, agribusiness news, charting and analysis. Telerate is also active in this sector of the market, particularly in the energy business.

Entry barriers

Reuters' network size involves economies of scale and economies of scope¹⁰¹ that constitute barriers to the entry of new competitors. It enables the company to extend the service to cover new data products or geographical locations at a cost unattainable for its competitors. According to a Flemings Research report: "Reuters databases have substantial proprietary strength, not because it is impossible for competitors to gather similar data and offer similar services, but because of the time and expenses involved (to set up the necessary infrastructure)"¹⁰²

The continuously expanding size of the Reuter Monitor network acts as an entry barrier for competitors because of the rising level of capital investment required to build up a network and operate a competitive service. However, the capital investment barrier could be eroded in the future by the widespread availability of VANs and ISDN (see Strategic challenges) that would enable the delivery of information through existing shared networks at a fraction of the level of upfront capital investment currently needed.

Reuters early entry into the market enabled it to establish a high degree of customer loyalty and recognition as an 'industry standard'. New entrants are forced to incur in additional costs to overcome the effects of this recognition. Reuters' competitors were forced to offer contributors a no-charge feeding connection into its network in order to secure their data supply in the foreign exchange market.

Reuters' economies of experience¹⁰³ based on its early entry into the market act as an entry barrier for competitors. The growing sophistication of customers requires considerable technological expertise and investment on the part of the information suppliers to keep up with qualitative changes in demand.

Gaining access to the data in non floor markets in the form of gathering an appropriate number of contributors is, according to David Brocklehurst, Reuters Europe Marketing Manager, a major hurdle for any new competitor. Reuters' 2700-strong contributors base is unmatched by any other competitor. This barrier is less effective in floor markets where any niche competitor can buy data from the Exchange.

Reuters' strong position vis a vis the PTT authorities is considered a barrier to the entry of non European competitors who may lack lobbying muscle in the European market and is cited by company's executives as one of their major assets¹⁰⁴

A special liaison group within Reuters is dedicated to cultivate the goodwill of Governmental telecommunications authorities. The approval for the use of proprietary technology for the Reuters' Dealing service throughout Europe, indicates its leverage in the strategic field of Government and PTT relations. This strong position is supported by Reuters' reputation and the influence it can exert as a leading news agency for 150 years.

New competitors

The future may bring powerful corporations as well as relatively small niche suppliers as new industry-wide or segment competitors. According to Patrick Mannix, Reuters' International Technical Manager, the market may evolve in such a way that Reuters may find itself competing with its present major customers and suppliers¹⁰⁵ (eg PTTS, Exchanges, IT suppliers, Financial Institutions etc).

Some of these firms may have the appropriate asset base as to overcome the high entry barriers to the industry, either by themselves or joining resources. IBM, Merrill Lynch, AT&T and Citicorp already entered the market, through joint ventures on integration. Another possible joint venture was recently announced between Olivetti and the Financial Times¹⁰⁶, British Telecom has stated since privatized, that business services will be in the future one of its strategic priorities (even though it is not clear yet what this definition encompass).

None of these ventures have so far threatened Reuters' overall preeminence in the industry but as the customers become more demanding and sophisticated, Reuters may feel the pressures of the financially powerful giants. Furthermore, the new competitors may prove to be more efficient than in the past since their less-than-successful previous moves (eg IBM's IMNET) may drive them in the future to set up their own ventures or integrate their operations by buying their partners (Quotron was recently bought by Citicorp for instance) to overcome the limitations of joint-ventures.

Conclusions of the industry analysis

Reuters' strategic position has been assessed as influenced by the bargaining power of its customers, the bargaining power of its suppliers, the pressure from substitute products, the threat of new entrants and the intensity of rivalry within the industry¹⁰⁷.

As argued above (see Customer Power) the intensity of the customer bargaining power force is very low and therefore industry profitability do not appear to be vulnerable to customer moves and pressures. No significant intensification of customer power is expected in the near future.

No source of substituting products exists in the professional market and none is foreseeable in the near future. In any case Reuters has a strong technological capability and innovation capacity that may help the company to position itself in the safe side of any eventual technological breakthrough. In the case of an eventual 'retail financial information services' market, composed by small firms and small individual investors (a market that was mentioned as a potential target) substitutes may be more readily available. Videotext services for instance.

The bargaining power of suppliers has been hitherto low but may intensify in the future, particularly in the area of communications. The potential entry of some of the big carriers into the market or forward integration by Exchanges may affect the profitability of the non-floor markets.

The intensity of industry-wide rivalry among existing competitors is low. Reuters' overall uncontested leadership in the industry has helped to introduce standards and price discipline in such a way that damaging service-wars (price-wars would not be very effective in an industry with so low price sensitivity) have been hitherto averted. The intensity of rivalry in specific niches is much higher due to the high fixed costs of the incumbents that make them compete hard to fill their capacity and the highly specialized nature of their assets that strengthen their commitment to the industry.

Furthermore the up-front expenditures for network set up introduce serious cost rigidities (since it is not possible to scale down network fixed costs, according to fluctuations in demand) which creates an exit barrier for leaving the industry.

The threat of new entrants has not hitherto undermined industry profitability because of the existence of high entry barriers. Additionally, as Reuters grow and accumulate substantial resources through profit earning and the capital markets, its retaliation potential against newcomers builds up, with the subsequent entry-deterrent effect.

In the future, as argued above (see New competitors) the growth of the market and the erosion (for technological or commercial reasons) of some of the entry barriers may entice additional firms to enter the industry. Particularly those firms who command assets that may enable them to overcome the entry and exit barriers (eg PTTs with existing large networks, large financial institutions with contacts and reputation in the market etc).

However, some of the highest entry barriers ('standard status', reputation, contributor base and lobbying muscle) need a long time and organizational effort to overcome, even with large resources and the appropriate asset base. Reuters could itself form defensive alliances with some giant but it is a difficult move to conceive for a company that has historically put an enormous value on its independence and whose reputation for impartiality is valued as a major business asset.

Based on these preceding conclusions it can be argued that Reuters holds a strong strategic position and that more growth is to be expected in the near future. None of the present competitors (in the broad sense of the word as defined by Porter¹⁰⁸) appears as capable of improving dramatically its position at Reuters' expenses in the near future. Future challenges, particularly related to powerful entrants in the industry and to the company's capability to manage its own growth are discussed below.

Strategic challenges and vulnerabilities

Internal challenges

Reuters' own analysis of the main strategic challenges awaiting the company, concentrates mainly on internal developments rather than on competitors' actions or market shifts¹⁰⁹. The ability to manage growth, particularly the success in absorbing acquisitions is presented as the main strategic challenge.

Ensuring the flow of product innovations is crucial for Reuters' strategy of technologically outpacing its competitors and keep the company as a prime source for the customers in a wide range of financial information services. Since "the constraint on innovation is not the technical work but the absence of a product champion"¹¹⁰, the need emerges to ensure the continuous existence of champions. Reuters' staff turnover has reached a point in which 50% of the staff has been in the company for less than 3 years, a cultural discontinuity seen by top management as a major strategic challenge¹¹¹. The role of Reuters' culture in supporting innovation is discussed in chapter 6.

Reuters' international spread reduced its strategic vulnerability in the key area of industrial relations.

Particularly important in this area is the capability of swiftly pulling its production centre out of London, with minor disruption of the service.

On the union front, Reuters confronted a situation of high vulnerability due to the realtime nature of its service.

Customer expectations were such that delays would not be tolerated. The massive fixed costs associated with the network operation and maintenance create a need for a critical mass of subscribers if substantial losses¹ are to be averted. In this context, the engineering unions' ability to disrupt the operation of Reuter's network was an unacceptable risk. With the spread of alternative production facilities around the world Reuters achieved strategic back up against industrial action and round the clock coverage at the same time.

According to staff involved in Monitor's implementation, the programmers union influence and actions was responsible for slowing down IT responsiveness and remove incentives for innovative proposals. A threat has been curtailed through outside contracting and moving of facilities to the US.

External challenges

New developments in technology can potentially challenge Reuters position in the industry. The company invests considerable sums (in 1985 more than £17 millions) in technical development. The company has a specific 'Strategic Technology' unit in its technical structure dedicated to analyze new technologies and its implications for the company on the long run. ISDN is considered at present to be one of the mayor future

challenges, based on its ability to dramatically lower the entry barriers for new competitors. One of the largest projects currently being implemented by the company is focused on ISDN.

The proliferation of large internal networks is enabling some of Reuters' largest customers to request the company a direct feed into their computers and rebroadcast themselves the information to their branches. This development challenges Reuters' business because marginal cost per terminal is increased and control over the quality of the service to the end-user is lost. Reuters is facing this challenge by tightening contractual restrictions on 'information rebroadcasting'. Reuters' contracts forbid for instance, transborder rebroadcasting or third party rebroadcasting.

Intents on the part of the Exchanges to take a part of the business for themselves, (exemplified by London Stock Exchange's TOPIC) could compromise Reuters' strategic position in the future but market globalization and deregulation favours Reuters as a private independent carrier. An alliance between several exchanges with mutual exclusive rights on their data would threaten more seriously Reuters' position but no movement in that direction is visible in the market at the moment.

The US securities market exemplifies Reuters' strategic vulnerability vis a vis the Exchanges. Telerate, a major competitor in that market segment, signed an exclusive agreement with a major US securities firm that practically locked Reuters out of the market (see Competitors). Telerate has been the market leader for years, based mainly on this strategic advantage. Reuters has been forced to rely on less direct sources and to undertake costly efforts to break the lock.

The threat of forward integration by large communication common carriers (is PTTS) has been fueled by recent privatizations.

The attitude and policies of these powerful companies may become more profit oriented and more geared towards the needs of the business community. Furthermore, carriers like British Telecom are expected to attempt an internationalization of their business, specially by entering the US market, a development that would threaten Reuters' scope advantage.

The threat of new entrants may be fueled by the market perception of Reuters as a powerful market leader that should be restrained by more competitors in the industry. That rationale may ease the way for potential new competitors who otherwise would not have been given a chance by the customers.

Government intervention of various kinds can constitute threats to Reuters. As we have seen before, Government threats to Reuters' integrity had been a constant in the agency's history.

As long as the agency was perceived as a 'national entity, as opposed to an international organization, it was expected by Government officials to take the 'national interest' into account in its reporting. British Government attempts to influence Reuters' reporting took place as recently as 1982, in relation to the coverage of the war against Argentina¹¹². This Government officials to take the 'national interest' into account in its reporting. This threat has largely been diluted by the internationalization of the company's business and its staff.

Government protectionist measures enacted to support domestic information suppliers, to give leverage to local PTTs or internal regulations governing the Exchanges data are challenges the company may have to face in the future.

International regulation of Transborder Data Flow is one example of potentially threatening legislation but it seemed to have lost momentum after the much publicized

steps taken by Brazil and Canada, but it can not be written off as an inherent vulnerability for a global information mover like Reuters.

Multilateral Government agreements in the framework of currency value are potential threats to Reuters' highly profitable foreign exchange market services. A return to an international system of fixed exchange rates, for instance, would constitute a major blow for the Reuter Monitor Money Market services. A downturn of the financial markets on which the company is obviously dependent would also constitute a threat to Reuters.

Summary

Reuters holds a powerful strategic position in a growth industry in which the major driving pressures of competition do not appear as bound to affect profitability in the short term.

However, as entry barriers are eroded numerous niche competitors and eventually some major industry-wide entrant with relevant assets may enter the industry in the future. The company believe that the major challenges for the company will be internal, in the framework of the transition from achieving -growth to managing-growth, specially absorbing acquisitions and training staff. In the short term this belief seems supported by the conclusions of the financial information services industry structural analysis. In the long term however, the situation may change as suggested above due to the erosion of many entry barriers (eg ISDN, privatizations etc) and the subsequent entry of a number of competitors that would start exerting pressure on the industry profitability.

CHAPTER 5

REUTERS: IT MANAGEMENT AND CAPABILITY

IT capability

Information technology (IT) in its many forms (telecommunications, data coding etc) has been at the heart of Reuters' business since its foundation as a business information provider. With the company's strategic thrust into real-time global information supply, IT was to be perceived more than ever before, as a crucial resource for the business.

This recognition of the growing role of technology was reflected in the strengthening of the budgetary base and hierarchical profile of the corporate technical structure. The aim was to ensure the level of IT capability needed to achieve Reuters' business goals.

Reuters' high degree of IT operational capability can be assessed by the successful implementation of complex projects like Monitor and the operation and maintenance of a worldwide network with high standards of speed and reliability.

The degree of strategic capability is reflected in Reuters' responsiveness to market change (adopt new external technologies, meet timely new customer needs), in its constant flow of new products as part of the company competitive strategy (see chapter3), in its role in tying in the customer (eg by automating some of the customers' operations) and in its contribution in keeping out the competitors (by offering third-party information through Reuters' network for instance).

In this chapter an assessment of the role of IT in the company's competitive success is presented with an analysis of the evolution of Reuters' IT structure and management including proposals for future changes.

IT capability as a success factor

Reuters' IT capability was not found to be per se a major factor in the company's competitive success. Indisputably, all major Reuters' developments were based on IT resources and skills but the company did not seem to have any discernible IT edge over its competitors. Reuters was not considered to be significantly more effective than its competitors in exploiting its technological resources¹¹³. Furthermore, in occasions a competitor would itself enjoy a technological advantage over Reuters¹¹⁴. As described below, each of the major IOS deployed by Reuters implied a considerable IT capability but in every case the project's success was strongly linked to non-technological factors.

Stockmaster's innovation (remote direct access to prices for equity traders) was based on the introduction of a new technology. The technological success of the project was based on the availability and skillful exploitation of the new technology but the commercial success of the project however, was said to be more related to the synergistic exploitation of existing assets the company already had (the european network, the reporting staff, useful contacts, worldwide reputation etc.) which its competitors lacked, than to its technical performance (see chapter6).

The Reuter Monitor Money Rates service offered a 'market floor' trading capability to the customer. The project was heavily dependent on the company's IT capability because it implies computerized gathering and delivering of money rates, electronically

connecting thousands of worldwide scattered money traders. An impressive IT effort (see chapter3) was undertaken to set up the Monitor project but its strongest competitor, Telerate, had shortly after a faster and more reliable service of its own to offer to the customer.

Furthermore, Monitor is still considered by some customers¹¹⁵ to be "the slowest service and not flexible enough". The crucial factors for Monitor's success are to be found in its marketing achievements, particularly the 'first occupancy' advantage, the creation of the unmatched contributor base, the scope of the service and the 'user driven' approach rather than on an eventual technological excellence.

The Dealing service introduced automatic trading capability to the financial markets, replacing telephone-based by IT-based dealings. Its main appeal however is not technological according to customers' perceptions¹¹⁶ but its recognition as the de facto "trading standard".

As detailed above, the basis for IOS competitive and commercial success seems to lie more on the realm of the opportune use of technology to achieve business aims than on technological excellence. Holding a technological leading edge position does not necessarily ensure per se competitive or commercial success, IT capability must be coupled with the appropriate business assets and marketing strategies. In this framework, it can be argued that IT capability was necessary for strategy implementation but by no means sufficient to explain competitive success. In chapter6 a detailed analysis of the crucial factors to explain Reuters' success is presented.

Managing IT for the business

The attitude of management

The composition of Reuters' management team influenced the company's attitude towards technology in its key IOS deployment period and shaped IT decision making criteria. Glen Renfrew current Chief Executive and Michael Nelson, current General Manager were extremely influential in all the major projects (see chapter3).

They had been strongly involved in Reuters' computerized ventures from the beginning and therefore had strong business backgrounds and at the same time an awareness of the main issues at stake in the computer and communications fields.

They were not experts on any of the specific technologies involved but had a firm grasp of their business value.

According to Keen the binding constraint in IT-based innovation is the lack of managers with "hybrid" qualities, being literate in IT and fluent in the business issues involved¹¹⁷. As mentioned on chapter 4, ensuring the continuing existence of those "hybrids" is considered a major strategic challenge for the company to be addressed through education and other organizational means.

The history of IT

A crucial element in shaping Reuters' attitude towards technology and its IT structural design is the company's history. This finding is not reflected in the mainstream IT management literature but has been mentioned in a recent work by Feeny and Earl¹¹⁸.

Reuters' technological history was dominated from its foundation by the needs and skills involved in teleprocessing (TP)¹¹⁹. Reuters has always been a communications-based company in which data processing (DP) played a non influential complementary role. The company never had the large centralized DP facilities, typical of early IT structures¹²⁰.

Reuters' TP culture (as opposed to DP culture) allowed the early adoption of a number of critical concepts like redundancy, modularity, compatibility and standards, that only years later were to be incorporated in the IT mainstream. A typical claim on behalf of the value of the company's TP culture ran as follows: "TP philosophy will assume that things are bound to fail and that the environment is hostile, little of this is to be found in traditional DP philosophy"

Furthermore the pervasive and dominant TP culture laid the ground for the highly effective outward orientation of Reuters' IT approach to product development. The company was among the pioneers in aiming its IT resources beyond its own boundaries, at a time in which the established thinking on IT management was based on the concept of DP as 'backroom operation' with a strong inward-looking bias (see Internal and External IT).

Relations with IT suppliers

The company develops close relationships with key suppliers, in order to maximize knowledge of new developments. Monitor technology for instance, was strongly influenced by DEC' proposals (see chapter3) and during 1985, Reuters was a test site for the recently announced DEC Microvax II system. This close relationship is considered¹²¹ a key factor in Reuters innovation record (see chapter6).

DEC (Digital Equipment Corporation) contribution to the Monitor's terminal 'soft' design (see chapter2) and Reuters' unconventional adaptation of the IBM 1800 (a computer geared for production control) to direct-feed Exchange information into its network were mentioned as examples of supplier-induced or supported innovations¹²². It was estimated¹²³ that Reuters bought up to 20% of DEC total production of the PDP 8 computer and influenced strongly the design of the PDP II successor.

Reuters' selection of the DEC PDP 8 as the basic processor for the Monitor project was cited as a major factor in the project's success, specially to enable the company to cope with a fast rising level of demand.

IT structure

Internal and external IT

Two separate IT structures coexist in Reuters, an 'internal IT' geared towards meeting the operational and managerial information needs of Reuters' administration and an 'external IT' whose focus is delivering products to the customer.

The 'internal IT' structure is described as "belonging to the finance people" and can be considered to be a "support" function, according to McFarlan's 'strategic grid'¹²⁴. Its overall connection with the business is consistent with Parsons'¹²⁵ "necessary evil" strategy. Internal systems are acknowledged to be "steps behind"¹²⁶ in relation to the external systems and in general to the state of the practice.

The company focuses its resources on the 'external IT' structure and clearly prioritizes the customer oriented projects. The concept of the external-user¹²⁷ (users that are not part of the company like customers, suppliers etc), entered Reuters' IT strategic thinking well before its recent introduction into the IT management literature. The close relationship with the customer and the 'user-driven' approach from it derived was singled out as a crucial factor in the high customer acceptance of Reuters' services.

Reuters' IT outward orientation is consistent with the Porter and Miller model for strategic IT exploitation: Reuters' value chain has high information intensity (many customers with whom to deal directly) and Reuters' product has high information intensity (it is mainly information)¹²⁸.

Evolution stages

Reuters' IT structure has gone through several stages over the years, going from a "centralized" to a "federal" organizational design (Earl and Feeny)¹²⁹. A "federal" structure is similar to decentralized structure (each business unit contains its own IT structure under its own control) except that there also exists a policy making coordinating central IT office.

Communications and Data Processing were two separate departments until 1974. In that year they were combined to form the Reuters Technical Department (RTD), centrally responsible for all technical planning and operational functions. It is important to note here that the transition to an integrated DP-TP management takes place a decade before the time most authors signal as the beginning of the 'IT integration' era¹³⁰. In 1979, the integrated IT structure is divided in a 'Development' group and an 'Operations' group.

A major restructuring of the company in 1981, combining the Economic Services and General News, led to the creation of four profit centers, each with its own IT structure, setting a "decentralized"¹³¹ corporate IT structure.

In the new organization IT groups are to report to the marketing managers with priorities to be focused more than ever before towards the support of marketing and business plans rather than on the improvement of internal efficiency. This characteristics conforms with Runge's finding that most companies successful in IOS deployment had "attempted to reduce the potential for conflict between technology and user groups by ... removing prioritization decisions from the IS department"¹³²

Finally, in 1983 the post of International Technical Manager was created with the responsibility to "plan the company's technical activities and coordinate them worldwide ... and recommending and implementing policies and systems to improve operational services quality"¹³³ and the company IT organizational design became of the "federal" type. A chart of the current Reuters' IT structure is presented in fig 3.

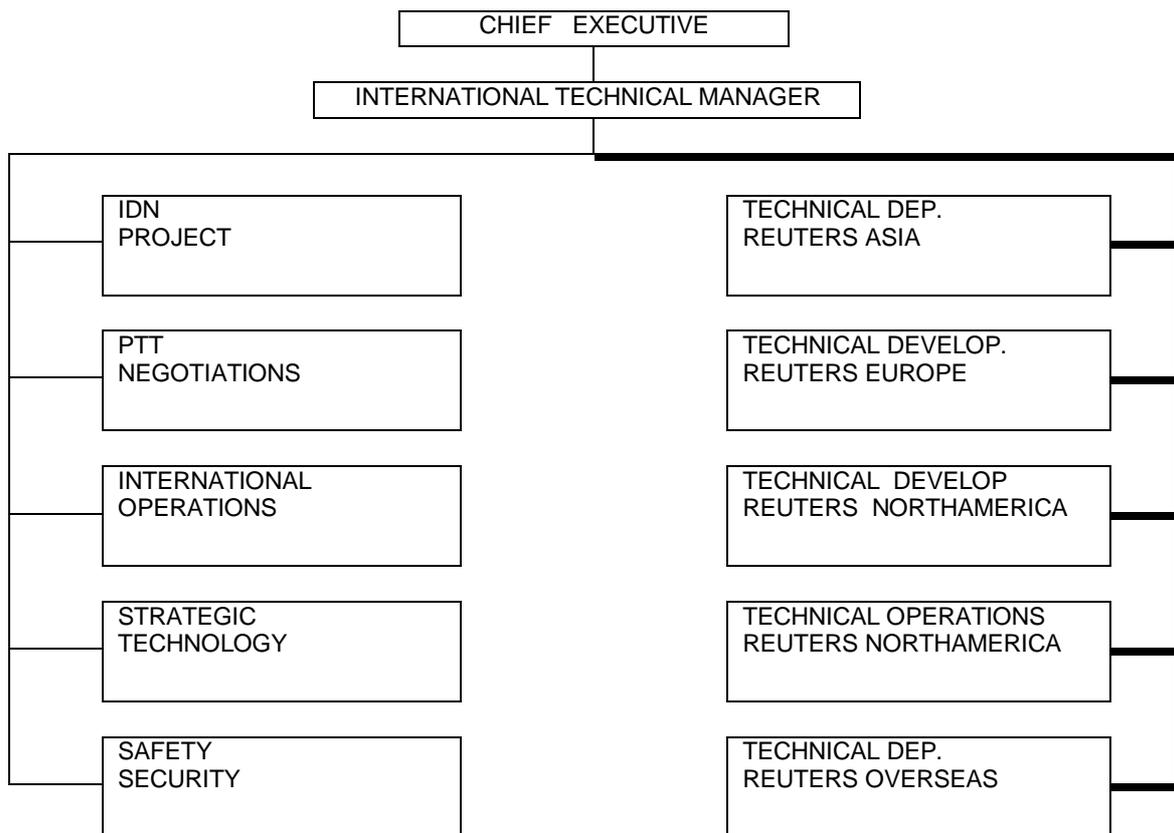
Proposals for change in the IT structure

Proposals for changes on Reuters' IT structure are currently under consideration. The move seems to be towards more centralization of IT development out of the four geographical profit centers (Europe, North America, Asia, Overseas) and into the International Technical Management structure.

The changes intend to help in streamlining IT resources, cutting duplication waste, balancing the influences of Marketing and Technical management on product and applications development decision making and improve the role of IT as a source of innovations. Reuters' IT structure is considered¹³⁴ "weak" in proposing innovations because its role has been largely confined to the receiving end of the proposals pipeline, with the marketing structure as the source. This belief that they are losing innovation opportunities by the restricted role of IT is shared by Runge who claims that: "IT departments could be sourcing ideas for competitive uses of information systems"

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FIG 3: REUTERS INTERNATIONAL TECHNICAL STRUCTURE



Note: **—** represents a coordination reporting line
 — represents a direct dependency

Source: Official Reuters organization chart 1986

CHAPTER 6

CONCLUSIONS: CRUCIAL FACTORS IN REUTERS' SUCCESS

Introduction

Reuters' impressive turnaround since 1964 was based on the success of Stockmaster and Monitor. These critical IOS project paved the way for the company's current overall preeminence in the financial information services industry. The history of these projects is the history of Reuters' reshaping from a non-growing news agency into an expanding multinational hightech information supplier.

The processes by which Stockmaster and Monitor were conceived and implemented highlight their industrial innovation nature¹³⁶: they were conceived as solutions to well defined customer needs (ie remote fast access to quotes, centralized exchange for money market) and they built on somebody else's technical invention (eg. Ultronics' Stockmaster). In this chapter the project's findings on the crucial factors for Reuters' success are presented and contrasted with the relevant literature on IT-IO strategic exploitation and industrial innovation particularly Runge and Kanter(see Chapter1). The nature of the projects is consistent with Runge's assertion that "the evidence that these (IOS) are a special case of industrial innovation is compelling"¹³⁷.

Runge in his cross-industry study of 35 IOS found that five crucial factors "consistently and significantly contributed towards the successful implementation (of the IOS studied)":

- 1) the role of product champions
- 2) customer involvement in the development process
- 3) marketing efforts
- 4) the IOS was an 'externalization' for the customers or suppliers of an existing internally used system
- 5) the established IT project approval procedures were circumvented.

Kanter¹³⁸ studied 115 major innovations, not necessarily IT-based innovations, in US companies. The author argues that implemented innovative projects had in common the following attributes:

- 1) trialability (the project is pilot testable)
- 2) reversibility (the company can backdown from the project)
- 3) divisibility (the project can be implemented in phases)
- 4) familiarity (the project is consistent with past experience)
- 5) congruency (the project fits the general direction of the company).

If the project involves a "radical innovation" then the author maintains that it should be 'marginal' (it can slip unnoticed) or 'idiosyncratic' (it can be accepted and implemented by a few people with power).

Crucial factors

- 1) The role of product champions and management involvement

The presence of 'champions' and 'sponsors'¹³⁹ played a decisive role in project conception, approval, implementation and 'follow-through'. This characteristic is consistent with Runge's findings on the importance of 'champions': "In 83% of the systems studied, a particular individual was deemed to have played a vital role in the implementation process ...(and in) the rate of customer acceptance"¹⁴⁰

The profile and role of the champion as an organizational 'facilitator' rather than a technical inventor is emphasised by Kanter who argues that "skills at managing organizational relationships" can be more important to innovation than "technical knowhow"¹⁴¹. Runge characterised the champions' activities along the following lines: vision of market evolution, vision of IT role in meeting customer needs, securing of necessary resources for the project and overcoming of resistance to approval and implementation¹⁴².

Michael Nelson, Reuters' current General Manager, played a vital role in both projects. In the Stockmasters' case, he was responsible for detecting the new technology in the US market and matching it to his vision of the future world market.

Furthermore, Stockmaster was launched in spite of a skeptical market research report¹⁴³, largely because of Nelson's lobbying. He secured top management's approval for its implementation by negotiating an agreement with Ultronics (Stockmaster's manufacturer) which provided that Reuters was to contribute its telecommunications expertise and infrastructure while the US firm was to contribute all upfront capital investment, hence bearing the financial risks of the project¹⁴⁴. According to Nelson's own retrospective analyses of the Stockmaster project, his own business track record was a crucial factor in building up credibility for the project¹⁴⁵.

According to Patrick Mannix, who was in charge of the Monitor project implementation, the level of authority of Michael Nelson was a decisive element in overcoming opposition and managing conflicts with the existing departments on issues like technical staff assignment¹⁴⁶. Opposition to the project came mainly from General News quarters where Monitor was accused of conflict of interest (between Reuters' reporting on market volatility and its capability of influencing the market by its own reporting). Rivalry with the teams in charge of the existing Stockmaster and Videomaster was responsible for conflicts in resource allocation.

Nelson's level of authority is consistent with Runge's finding on the general level of authority of champions in the IOS he studied: "Product champions were characterized by a high level of authority, 64% were at or above director level"¹⁴⁷. Kanter concurs on the level of power needed by champions: "To initiate and implement an innovation, people need that extra bit of power to move the system off the course in which it was heading automatically" power being "the capacity to mobilize people and resources to get things done" (Kanter)¹⁴⁸. The sources of organizational power are considered by Kanter¹⁴⁹ to be information (noticing Stockmaster in the US) resources (funds, staff etc) and support (Longs' support). Nelson had the expertise and authority to exploit these sources of power in order to get the projects moving.

According to Nick White, who was in charge of Monitor's technical implementation, the supporting role of the champions was decisive in the follow-through period, the initial months in which Monitor was not taking off as expected and internal pressure started to build up for the company to back down.

Peter Benjamin's (former Reuters' Technical Director) technical contribution to the project is considered crucial¹⁵⁰. He was the author of the implementation proposal that was selected. In that proposal he supported the use of standard DEC equipment against the advice of the Communications team, whose proposal was based on

specially designed hardware. His proposal was selected in spite of the traditionally stronger clout of the Communications team. The point was made that the company's ability to cope with Monitor's fast growth was based on having a flexible engineering expansion path and that it would have been impaired had the company selected a different processor¹⁵¹. Benjamin also played a major role in the internal development of the system elements not available 'off-the-shelf' (eg interfaces).

The exact role of Gerald Long, Reuters' Chief Executive at the time, is a matter of debate. Theoretically, he may be considered as an active 'sponsor' for the sponsoring efforts of Nelson but a closer analysis of the company's power structure at that time, might suggest that Nelson's clout was larger than organizational charts tell¹⁵², and could have pushed Stockmaster a long way on its own. A certain degree of team playing was certainly needed, especially in the funds approval phase and may be a better description of the project history than the more obvious 'sponsor supports champion against bureaucracy'¹⁵³.

Reuters' potential for champion generation has been strengthened by the current composition of top management (specially Renfrew and Nelson). Each has a strong record of project sponsoring that provides a role model for the next generation of Reuters' executives and an incentive for career development. According to Kanter, the values of the leaders are of great importance because they symbolize the cultural appropriateness of innovation to the company¹⁵⁴. This reinforcement of the company's declared values will prove particularly important in the future to ensure a minimum degree of cultural cohesion and continuity.

2,3) Customer involvement and marketing efforts

The high degree of customer involvement in Monitor's conception and design phases was cited as a strong factor in the project's success, especially in terms of market penetration¹⁵⁵. In some cases Monitor was described as a "user driven" project¹⁵⁶. This finding is consistent with Runge's who found that: "The rate of (customer) acceptance (of the projects studied) was ...strongly related to the level of customer involvement in the development process"¹⁵⁷.

Potential contributors and subscribers were identified and systematically consulted about the form and content of the service in what the company called a "concept selling" pre-launch operation¹⁵⁸. The purpose of the operation was to help shape the service according to the customers' perspective.

Letters of intent and advanced contracts were requested from the customers to support project approval by clearly identifying a 'take off' market. Runge similarly found that "focused methods of promotion rather than general publicity or advertizing tend to characterise the (IOS)... and seems to be the most effective means of ... (customer) acceptance"¹⁵⁹.

Customer participation was high in the design phase to ensure the user friendliness of the service man-machine interface.

Reuters' aim was to provide dealers with clear and relevant information, for them to feel comfortable and confident enough to rely on the screen for a growing part of its work. Joint teams were set up with Reuters technical development staff and dealers from the future subscribers.

Strong marketing efforts played a major role in IOS success, particularly innovations like simultaneously approaching dealers and managers, the offer of news and rates on the same screen for the first time and the offer of a free of charge initial period and the flexibility in the selection of the number and type of services.

4) 'Externalization' of internal systems

Runge argues that "in 77% of the case studies the (IOS) was basically an interorganizational extension of information systems which already existed internally" and that "synergy between a firm's existing technical infrastructure and new products or services was important for the exploitation of (IOS)"¹⁶⁰. Maidique and Zirger found that innovations that "build on present technological strengths" were correlated with success¹⁶¹. Quinn describes this characteristic as "incrementalism"¹⁶². According to Canning¹⁶³, strategic systems can make extensive use of a company's existing internal system base.

In Reuters' case, none of the IOS studied (Stockmaster, Monitor and Dealing service) were 'externalizations' of existing internal systems, in the sense that they did not follow Wiseman's suggested evolution from "internal usage" to "direct provision to the customers"¹⁶⁴. This fact is supported by repeated claims that 'internal IT' was of secondary importance to Reuters and that in fact Reuters internal IT capability was behind the external¹⁶⁵ capability. However it must be noted that (as described in Asset Base) Stockmaster and Monitor built on the strength of the existing Reuters' network to offer their product (direct access to equity prices, real time contact with the money markets).

5) Circumvention of standard project approval procedures

Reuters' declared IOS justification procedures do not seem to confirm straightforwardly the common findings in the literature about innovation projects appraisal and selection. In the relevant literature it is generally stressed the inconvenience of investment appraisal techniques strictly based on financial considerations (as opposed to strategic considerations) and the incompatibility between innovation and formal planning.

Utterback et al found that "formal planning was conspicuous by its absence (in successful innovations)"¹⁶⁶. A consistent approach is taken by Kaplan¹⁶⁷ who agrees on the deficiencies of financial project analysis and attributes them to the failure of the accountants in quantifying intangible benefits.

Runge, in his study of successful IT-based innovations, states that "traditional cost-benefit (oriented)...planning processes were considered to be obstacles" and "the decision to invest...was an 'act of faith'"¹⁶⁸. He found that "in 80% of the (IOS) studied, existing IS planning and project selection procedures were either purposely circumvented or simply ignored". Keen concurs noting that "it is only after the issue of business value has been established that cost can be brought in"¹⁶⁹. MacFarlan suggests separating IT investments designed to create competitive advantage when assigning development priorities¹⁷⁰.

In Reuters' case it was strongly argued in the interviews that all projects had to satisfy a set of financial objectives and that no project was launched without satisfying the company's standards on return on investment and other performance measures¹⁷¹.

However, in spite of the declared procedures, a closer look at the history of the projects suggests that the actual actions taken may have been closer to those found in other relevant studies on industrial innovation. The main difference in Reuters' case being the unwillingness to acknowledge the weight given to non-financial considerations in the approval process, even though care was taken for the standard procedures to be 'formally' followed.

In Runge's study managers involved in IOS implementation are quoted as stating: "(cost-benefit analysis) is relevant to (internal) DP, but not to strategic systems in marketing" and that "financial considerations are too dominant" In an article in the Harvard Business Review Hayes and Garvin openly declare that "capital investment represents an act of faith...a commitment to making the future happen"¹⁷². In Reuters, managers consistently maintained that Monitor's appraisal was based on sales and cost projections¹⁷³ and that every project justification is based on the basis of profit earning estimations. Attention might be given to strategic and competitive considerations but projects have first to prove their financial potential if they are to be implemented.

In the case of the Stockmaster, it seems clear that even though the project may have been formally justified on a financial basis, the data and the evidence used for justification was largely based on the 'belief' that a substantial market existed for the new product. Furthermore a significant piece of authoritative market research that did not match the vision of how the market would unfold, was dismissed (see chapter3).

In the case of Monitor it was argued that the volume of the project (ie required investment, implementation complexities, risk involved, expected return etc) was unprecedented in relation to the size of the company and therefore all existing project approval procedures were inadequate^{174 175}, in an indirect justification of the non-declared influence of the strategic implications of the project in the formal approval procedures.

It seems that this 'one of a kind' attribute was used to 'push' the project through the formal approval procedures. The sense of urgency to capitalize on the opportunity left open by the collapse of the Bretton-Woods agreement by achieving 'first-occupancy' on the customer desk may have been one of the powerful non-financial considerations in strengthening the project case and its 'ad-hoc' appraisal.

In the case of less critical projects, examples were cited of proposals being adopted based on their strategic value rather than strictly on financial considerations. Some of these projects were labeled as "revenue protection"¹⁷⁶ moves such as the introduction of news in the Monitor service to compete with Quotron. Another example is the recent acquisition of the UPI photo service¹⁷⁷.

6) Project attributes

Reuters' Stockmaster and Monitor projects seem to contradict some of the attributes described by the current literature on successful innovative projects. According to Kanter the most salable projects are 'trialable (pilot trialable), divisible, reversible... and congruent"¹⁷⁸.

Monitor was not pilot tested or divided because a large critical mass was needed to take off (see chapter3) and pilot trials were not traditionally part of Reuters' methodology of project assessment¹⁷⁹. It was not reversible in the sense that the financial commitments (is debt gearing) necessary for its implementation would have put at risk the whole agency in case of failure.

It can be argued that Stockmaster was congruent with Reuters' direction at the time but a significant part of the company, (mainly on the General News side) did not perceive it that way. It is true that Reuters was already looking for ways to make inroads on the economic market but Stockmaster opened the way to a totally new attitude towards extrafirm cooperation, technological reliance, marketing policies, staff recruitment and corporation priorities among others (see chapter3).

Stockmaster and Monitor's swift acceptance and implementation may have been made feasible by what Kanter¹⁸⁰ calls its "idiosyncratic" nature. Idiosyncratic projects are those which "can be accepted by a few people with power without requiring much additional support"¹⁸¹.

Additional crucial factors found in Reuters' case

1) Corporate history and identity

The history of the company played a critical role in legitimizing the 'breakaway projects' that so decisively changed its course. The role of the company's history in supporting successful innovative project is cited by Peters and Waterman who maintain that the champion "steps out and takes risks because the history of the company supports him doing so"¹⁸². Reuters' history contributed to create an environment supportive of technology based initiatives. The importance of the environment for the innovation process is argued by Kanter in her study of corporate entrepreneurship:

"The environment, more than the person, makes the biggest difference in the level of innovative managerial activity"¹⁸³.

Reuters' culture had always been heavily influenced by its financial information side of the business, even during those periods in which the news side was the main source of income and prestige. The company was founded to meet a financial information need (see chapter2), a fact that shaped Reuters' idiosyncrasy to be aware of financial needs and supportive of initiatives to meet them. Reuters' exploitation of the time differential between pigeons and trains in 1850 and the Stockmaster and Monitor projects shared the common aim of meeting financial markets needs through technological innovations. This awareness of financial market needs was not to be found in Reuters' competitors in the news business (eg AP and UPI) who were much slower in identifying financial market opportunities (see chapter4) . According to the president of AP: "Reuters was well ahead of its time"¹⁸⁴.

Another element mentioned as an important positive factor in Reuters' competitive performance is its focused identity as an information supplier¹⁸⁵. Reuters is fully committed to its information supply business. For some of Reuters' more powerful competitors (eg IBM, Citicorp) information supply is not their main line of business and therefore they lack the 'survival' drive that has characterized Reuters' performance in the information supply industry. Furthermore, Reuters' 'full commitment' to the information supply business has strengthened its reputation of impartiality, an important asset in the highly sensitive financial markets. Joint ventures like IMNET, launched between IBM and Merrill Lynch, are said to have been hindered by the perception of a potential conflict of interest in Merrill Lynch' double role as a provider and a user of financial information by the customers¹⁸⁶.

2) Asset base

Reuters held an organizational advantage over its competitors by having a well established asset base established in both ends of the information supply spectrum, general news and economic information. It had the worldwide infrastructure, contacts, experience and reputation of a news agency and at the same time the managerial capacity and business vision of a commercial company.

AP and UPI, Reuters' strongest competitors among news agencies, had extensive networks and reporting experience but were too slow in sensing the economic market opportunities. Their tradition and business values did not exceed general news

reporting and their infrastructure was not geared towards sources like Exchanges or customers like banks or brokers. Their natural customers were the media, not the financial community.

Conversely, Reuters' economic services competitors (eg Telerate, Quotron etc) were geared towards the financial community but lacked Reuters' international network and reporting staff infrastructure, a crucial disadvantage in a global telecommunications-based business.

Furthermore, these providers of economic services could not match Reuters' worldwide contacts and reputation, crucial assets for PTT lobbying. This factor was considered by Patrick Mannix a major entry barrier (see chapter4). According to Peter Benjamin, the intricacies of PTT lobbying (coupled with the fact that Reuters owned its own network throughout Europe) were a stronger barrier for Ultronic to enter the European market with the Stockmaster than any other factor. This attribute seems to be very specific to the industry since more general studies on innovation like Rubinstein's have found "little evidence" to support the claim that laws and regulations influenced decisively project approval¹⁸⁷. Reuters' lead on the technological learning curve and its internal development capability also help the company in outperforming its economic services competitors.

Some of Reuters' competitors, like Dow Jones and AP for instance, joined forces in an effort to achieve a competitive asset base but hitherto they were not able to dent on Reuters' overall market preeminence (see chapter4). According to Patrick Mannix, who was in charge of Monitor's implementation, only a joint venture among the major banks themselves could have competed with Monitor in the foreign exchange market¹⁸⁸. Such intra-industry cooperation has however been proved as historically to be problematic and has been preempted in many cases by swift moves of determined individual firms such as Reuters' Monitor. American Airlines' externalization to the travel agent industry of Sabre, its online reservation system, introduced at a time in which the industry was trying to agree on a common system and Barclays Connect Card, introduced when the banks are still discussing a common EFTPOS (Electronic Funds Transfer at Point of Sale) system are other examples of intra-industry moves preempted by individual firms.

This incidence of Reuters' asset base in its competitive success is consistent with Chamberlin's¹⁸⁹ work on the economics of competition and the more recent work of Barney¹⁹⁰ on types of competition and the theory of strategy.

Chamberlinian economics focus on the unique assets that differentiates individual firms and links it to its "conduct and performance". Some of the key differences include technical knowhow, reputation, brand awareness and managerial abilities which were cited above as important factors in Reuters' case.

Demsetz¹⁹¹ argues that firm heterogeneity can represent a source of competitive advantage. The implication according to Stevenson¹⁹² being that firms should seek to choose strategies that exploit their differential assets.

3) Attitude towards Information Technology

The role of Reuters' IT capability on the company's competitive success is discussed in detail in chapter 5 along with an analysis of the corporate technical structure. A synthesis of the crucial IT-related factors is presented here.

The pragmatic attitude of Reuters' management towards IT was considered a major factor in the success of the exploitation of technology to achieve business aims¹⁹³. A

key group of managers (is Renfrew and Nelson) had strong business backgrounds and at the same time an awareness of the main technological issues at stake in the computer and communications fields. They were not technology specialists but had a firm grasp of the business value of the different technological alternatives. Their background is consistent with Runge's finding that "Product champions were characterised by their general business background (as opposed to technical background) and by having ...a level of awareness in IT"¹⁹⁴.

When a certain technological component was needed to achieve a certain objective but was not available 'off-the-shelf' (an issue that arose with the need for special interfaces for instance) effort was made to solve the problem by internal adaptation or internal development. This attitude is consistent with Runge's finding that "although the availability of technology was viewed as a constraint, what is significant ...is that managers did not allow the availability of technology to be a barrier even though they occasionally had trouble finding equipment that met their needs"¹⁹⁵. A similar point was made in a report to the DTI (Department of Trade and Industry) stressing the fact that companies leading in the use of IT did not allow technology availability to prevent their developments¹⁹⁶.

A crucial factor in Reuters' successful IOS deployment was the company's perception of the role of technology¹⁹⁷ as a customer-oriented product delivery technology, as opposed to the conventional view of IT as a resource geared mainly towards improving the efficiency of the company's internal operations.

This perception is based on the predominant company's TP (teleprocessing culture)¹⁹⁸. Reuters has always been a communications-based company in which DP (data processing) played a relatively minor political role. An important consequence was the early fusion of TP and DP under an integrated management, enabling the company an enlarged "strategic vision"¹⁹⁹ of its market.

Reuters' close relationship with its IT suppliers played an important role in the company's innovation processes.

Especially its relations with Digital Equipment whose proposals leading to the Monitor's terminal 'soft' design (see chapter3) are considered an important contribution towards the project's success²⁰⁰.

Summary

A high degree of overall consistency was found between Reuters' case study and Runge's findings on the crucial factors for IT-based innovation success. In Reuters' case the role of champions and a high degree of customer involvement coupled with focused marketing efforts were shown to have played a major positive role, a finding that reinforces Runge's conclusions on IOS "enablers". Many of the 35 IOS studied by Runge were previously internal systems, in Reuters' case they were created directly for the customer. Reuters' very special IT culture (see chapter5) may help to explain the difference in terms of its early outward orientation. In relation to Runge's finding with respect to the "circumvention" of the established project appraisal procedures, it has been discussed that the difference in Reuters' case may be more rethorical than practical.

The degree of consistency with Kanter's profile of potential successful innovation projects was found to be lower, a difference that may be related to the fact that the author studied general innovations, as opposed to IT based innovations .

Factors were found as crucial in Reuters' case that are not mentioned in the reviewed relevant literature. The company's business and IT history contributed decisively to the timely recognition of market opportunities. The attitude towards technology played a major role in gearing the technical resources towards the customer and successfully exploit the opportunities and the company's differential assets were crucial factors in competitive success. Further research may be of interest on these factors to assess their long term implications for Reuters' strategic position and to study their role in other case studies.

APPENDIX A

THE NEWS BUSINESS IN REUTERS

Introduction

Reuters' impressive evolution in the last 30 years was largely achieved, as detailed in the previous chapters, on the basis of the success of its economic services. In this period the company's general news business was restricted by the general stagnation of the media markets, and found itself in a growing need for capital. The company's strategic priority in the allocation of resources was however focused in the economic services (see chapter 3). As a result an ongoing conflict emerged between the two arms of the company that would strain internal relations and prompt several reorganizations of the company.

In this appendix a brief presentation of the nature of the conflict is presented with a description of the organizational measures geared to its solution. Detailed analysis of the cultural and organizational aspects of this delicate issue exceeds the purpose of this project, its brief presentation here intends to suggest the magnitude of the problem and the potential interest for further research into it.

The division

Until 1973 Reuters' news business traded under the name of General News Division (GND), the economic services were grouped in the Reuters Economic Services (REC). GND was headed until leaving the company in that year by Bryan Horton, REC was managed by Michael Nelson.

The relation between both divisions were described as competitive to a damaging level, with both divisions competing for resources and trying to get credit for their initiatives, sometimes at the expenses of the company as a whole. When General News introduced for the first time in 1967 the use of computers for message exchange, Economic Services refused to use the system, in an example of the level of conflict existing in the company at the time²⁰¹.

Economic Services was at the time buying the news services it needed from its sister division. At that time the news business was facing soaring costs, with an inflation of up to 15% per year while its revenues were not growing more than 5% in the same period.

In 1973 the General News Division was reorganized with the creation of two more divisions. Reuters Media Service (RMS) would sell news while Reuters World Service (RWS) would perform the reporting and editorial tasks. RWS was defined as a cost centre with no revenue to account for, as a way of protecting it from the external pressures created by its lack of profitability²⁰². These pressures had created a "siege mentality"²⁰³ in the division that aggravated labour tensions and created occasional outbursts of labour problems, including industrial action in both sides of the Atlantic. These actions, have been connected to this perception²⁰⁴, even though there were no actual lay offs due to either the computerization process or the lack of profitability of General News.

Towards integration

In 1980 a major move was sponsored by the recently nominated Editor-in-Chief Michael Reupke. The economic coverage had hitherto been conducted by economic reporters, belonging to the Economic Services division while all other reporting was in charge of the General News division. Reuters' bureaus were suffering in many cases from duplication and lack of cooperation between the General News reporters and their Economic Services counterparts. As Lawrenson and Barber quote: "An inordinate amount of time was spent on arcane discussions on cost allocations...the damage to Reuters of having two chiefs in most centers of the world who were frequently fighting each other was considerable"²⁰⁵.

In the new structure all reporters were integrated in the Reuters World Service structure. This move helped to streamline operations, boost the identity of the News Division, facilitate internal bureau relations and bring closer Economic Services and General News by way of creating a higher degree of interdependency.

In 1981 the reorganization of Reuters' divisions into profit centers led to a decentralized structure in which Reuters World service was quietly integrated pushing therefore a step further the process of integration between the two main lines of Reuters' business. Editorial costs are considered an overhead, its level of expenditure is carefully monitored to prevent it from being "oversqueezed"²⁰⁶ by cost cutting moves.

New developments

A number of relatively recent developments have been cited as having been a positive influence in the process of integration of the editorial and business culture in the company. The growing 'popularization' of economic issues through the general press, where economic stories often are included in the first page has driven financial reporting closer to mainstream journalism. The share-option scheme offered by the company has brought many of its journalists, under their hat of shareholders, closer to the economic side of the business. The intensification of niche competition has led the marketing staff to appreciate better the value of the news services since Telerate and Dow Jones started to offer the integrated news-prices product.

APPENDIX B

INTERVIEW AGENDA

ON THE IOS PROJECTS (STOCKMASTER, MONITOR AND DEALING SERVICE):

WHICH OF THE FOLLOWING RUNGE'S 'KEY ENABLERS' WERE TRUE:

'CHAMPIONS' EXISTED TO PROMOTE THE PROJECT AND SECURE THE RESOURCES

CUSTOMERS WERE INVOLVED FROM THE START (IN JOINT TEAMS, PILOT TESTS OR OTHER)

THERE WAS STRONG MARKETING SUPPORT (MARKET RESEARCH, PROMOTION, EDUCATION, IT ALIGN)

THE SYSTEM WAS AN ENHANCED 'EXTERNALIZATION' OF AN EXISTING INTERNAL NETWORK

THE STANDARD PROJECT APPROVAL PROCEDURES WERE IGNORED OR CIRCUMVENTED

HOW WAS THE MARKET OPPORTUNITY RECOGNIZED?

HOW WAS THE PROJECT JUSTIFIED? WERE THE STANDARD PROCEDURES FOLLOWED ?

WAS THE LAUNCHING DECISION INFLUENCED BY ACTIONS OF THE COMPETITORS? WAS 'PREEMPTION' A MAJOR LAUNCHING CONSIDERATION?

WERE THE STANDARD IMPLEMENTING PROCEDURES FOLLOWED?

WHO WERE THE KEY CONTRIBUTORS TO THE PROJECT?

WAS THERE ANY OPPOSITION TO THE PROJECT? HOW WAS IT OVERCAME?

WHICH WERE THE CRUCIAL (INTERNAL) FACTORS FOR PROJECT SUCCESS?

DID THE PERCEPTION OF IT CHANGE WITHIN THE COMPANY AS A RESULT OF THE PROJECT?

WHAT WAS THE ROLE OF THE ESTABLISHED IT STRUCTURE IN IMPLEMENTING THE PROJECT (ALLY OR OBSTACLE?)

WHICH WERE THE MAJOR NON FINANCIAL BENEFITS (STRATEGIC ETC) FROM THE PROJECT?

ON REUTERS:

WHAT ARE THE MAIN STRATEGIC CHALLENGES INTERNAL AND EXTERNAL FOR THE COMPANY IN THE FUTURE?

WHAT ARE REUTERS' MAIN STRATEGIC ASSETS? DOES REUTERS HOLD COMPETITIVE ADVANTAGE?

HOW WOULD YOU DESCRIBE THE BALANCE OF POWER LIKE BETWEEN REUTERS AND ITS CUSTOMERS? HOW IS IT EXPECTED TO CHANGE ?

ARE THERE SWITCHING COSTS FOR THE CUSTOMERS?

HOW WOULD YOU DESCRIBE THE BALANCE OF POWER BETWEEN REUTERS AND ITS SUPPLIERS? HOW IS IT EXPECTED TO CHANGE?

ON COMPETITORS:

WHO ARE THE STRONGEST COMPETITORS?

ARE THERE NEW COMPETITORS EXPECTED TO COME INTO THE MARKET?

WHAT DID REUTERS DO BETTER THAN ITS COMPETITORS? DID THE COMPANY HAVE A TECHNOLOGICAL LEAD?

ARE THERE BARRIERS TO THE ENTRY OF COMPETITORS?

WHAT IS THE BASIS OF COMPETITION? WHAT IS THE BASIS OF CHOICE FOR THE CUSTOMERS BETWEEN REUTERS AND ITS COMPETITORS?

ON THE TECHNICAL STRUCTURE:

WHAT IS THE ROLE OF THE TECHNICAL STRUCTURE IN SUPPORTING THE BUSINESS ?

IS REUTERS MORE EFFECTIVE IN EXPLOITING ITS TECHNICAL RESOURCES THAN ITS COMPETITORS?

WHY THE CHANGES SEPARATING DEVELOPMENT AND OPERATIONS?

WHAT ARE THE NEXT CHANGES AND WHY?

HOW RESPONSIVE IS THE TECHNICAL STRUCTURE?

HOW ALIGNED IS THE TECHNICAL STRUCTURE TO GENERAL STRATEGY?

DOES THE TECHNICAL STRUCTURE PROPOSE IDEAS OR RECEIVE ONLY?

HOW ARE PROJECTS JUSTIFIED?

COST SAVINGS

REVENUE EARNING

LOOS CONTROL

STRATEGIC IMPACT

MANAGEMENT INFORMATION

IS INFLUENCE ON PROJECT APPROVAL BALANCED BETWEEN USERS AND IT'?

WHAT HAS BEEN THE EVOLUTION OF THE PERCEPTION OF IT WITHIN THE COMPANY?

HOW IS THE INTERNAL IT ORGANIZED?

WHAT IS THE IT VENDORS AND STANDARDS POLICY?

IS THERE ANY SYSTEMATIC TECHNICAL TRAINING FOR GENERAL MANAGERS?

IS THERE ANY SYSTEMATIC BUSINESS TRAINING FOR GENERAL MANAGERS ?

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