

Introduction



In recent years, fewer industries have been faced with more challenges than the telecom equipment industry. Though the industry has been around for more than one hundred years, it has changed more in the past few years than in the entire preceding century!

By examining how it has adapted to this accelerated process of change, this case study illustrates how Marconi Communications has developed leading-edge products that have enabled it to position itself as world leader in key areas of the telecommunications market.

Although Marconi Communications is a GEC company and one of GEC's three core businesses, it is a new name on the telecoms scene with a powerful pedigree. The formation of Marconi Communications united GPT and Marconi SpA. Guglielmo Marconi (1834-1937) was the pioneer of radio and a Nobel Prize winner in 1909. It was in the same year that he founded Marconi SpA, an innovator in civil, mobile radio and military telecommunications in Italy and over 60 countries for many years. GPT (GEC Plessey Telecoms) had more than 90 years experience in the field of telecoms as the UK's largest telecoms manufacturer.

Marconi Communications is a business-to-business company, selling in industrial markets to large telecommunication services and corporate clients. The process of change has activated the business to develop from being a provider of telecoms equipment, to an organisation that helps its customers to communicate by providing them with world-class solutions.

The changing environment

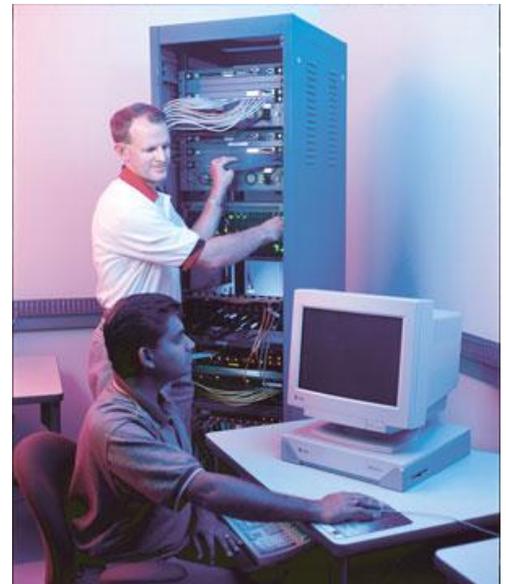
The modern business environment contains many different influences that make decision-making more complex than ever, such as technological change, competitive rivalry and global communications. The ability to make sense of these influences is particularly important for managers - on the one hand they signal opportunities, on the other they warn of threats.

Organisations that recognise the complexity of these forces can progress, survive and prosper, while those that fail to deal with change fall rapidly behind. Recent periods of industrial history are littered with the skeletons of companies that have failed to innovate and adapt to change.

Some industries go through 'transforming eras'. Businesses are faced with progressing beyond their existing operations rapidly, through a process of radical change. By accepting the challenges presented by their business environment during these periods of change and strengthening their capacity to innovate and develop quickly, successful organisations capitalise on change to become more competitive.

Until 1984, the primary telecom operator within the UK was British Telecom (BT). BT was based in the public sector. Successive governments managed the business because it was felt that the market could not always meet social needs. Just as one operator dominated the country, two equipment suppliers dominated the market. They combined in 1987, under GEC, as GEC Plessey Telecoms (GPT). Also at this time Siemens became co-owner of GPT, purchasing a 40 per cent stake in the company from GEC.

This period was characterised by limited consumer choice and a one-price service. BT was gearing up for a major investment programme in digital telephone exchanges, but this was more technology-led rather



than reflecting changing consumer requirements. The strength of GPT depended on sales of System X narrowband digital exchanges, primarily to BT.

At the time, sales were effective and provided cheap connections for voice telecommunications, which ran at low speed and were technologically linked to the System X exchanges. Though well suited for voice services, they were not capable of providing the infrastructure for the type of modern data-rich communication services many organisations and individuals have become dependent upon today.

The privatisation of BT and deregulation of the telecoms sector, including that of other national telecom companies across the world, increased competition at a crucial time. Rapidly developing new broadband technologies and the emergence of competing cellular networks would soon be able to provide services to suit the new data dependent business environment. It signalled the need for change.

Making a strategic decision



Strategy involves making major decisions about the long-term direction of a business. It results from a process of corporate planning. Deregulation was changing the telecoms landscape in the US and the UK and signs indicated that when changes reached the rest of Europe, the pace would quicken. At a time when transformational change was required for GPT, it was important that strategic decisions would provide a clear direction for GEC's communication business.

Acquisition is one way of responding to transformational change and the opportunities it creates. This is more responsive than internal development as it allows organisations to improve the speed by which they enter new product and market areas. It also provides an opportunity to share expertise and knowledge.

Most of the critical products and technology were developed when GPT was jointly owned by GEC (60%) and Siemens (40%). The total ownership of technology was to become critical for an organisation determined to revitalise its future and develop new markets and products. As a result, GEC bought the 40% shareholding in GPT that was owned by Siemens, and became sole shareholder. At the same time a merger took place with Marconi SpA, the Italian subsidiary of GEC, to create Marconi Communications.

Within a short period of time, through this decisive set of actions, GEC had created a wholly owned £1.86 billion telecommunications equipment company. Acquisitions were subsequently made to add products from US companies, as well as US market share. For example, the Reltec Corporation was acquired in 1999 to access new technology and enable Marconi to expand into the US market. FORE systems was also acquired for its leading edge broadband switching capability and to give the company a position in the enterprise and campus markets. All of this took place against a backdrop of an industry experiencing a revolution.

The expanding marketplace

In recent years there has been a rapid growth in telecommunication services such as call waiting, call identification, conference calls and voice mail. A larger development has been in the world of data rather than voice. In the past, these were considered to be niche markets, with few mass market opportunities.

The development of the Internet has, however, provided the most significant increase in demand for services since telecom services were first introduced. E-mail traffic has already overtaken voice on the world's networks and is developing rapidly. Other applications are also evolving, such as video telephony, video on demand and home-working.



As telecommunication services have expanded, so have customer needs. Users of communication technologies demand reliability and want fast download speed that provides them with a range of efficiently run services.

Two features assisted its growth. Firstly, PC penetration amongst consumers was high and this was aided by cheap equipment. Secondly, local calls throughout the US, with the exception of Manhattan, are not metered and are therefore effectively free. The more customers, particularly businesses, become dependent on the use of data-based technologies, the more they require a range of other services to guarantee the integrity of such data, particularly those which ensure services are of high quality and are not interrupted.

Customers also require faster and more flexible solutions to complex patterns of service demand. From the customers' point of view, they require a network that would be:

- able to evolve
- flexible
- reliable
- scalable
- profitable.

Narrowband technologies could only cater for limited growth in communication traffic. Broadband data switching was the only way telecommunications companies could respond to this new and fast-changing environment. Entering this marketplace would put Marconi Communications head-to-head with stiff competition from large, well established names such as Alcatel, Lucent Technologies, Siemens, Nortel and Fujitsu.

Core competencies

Core competencies are separate activities that provide competitive advantage and are usually difficult for competitors to imitate.

Marconi's competencies are:

- speed of response
- technological scale
- global reach
- highly-skilled and motivated people.

In its strategy to develop competitive advantage, Marconi Communications had to develop the technology and build on its core competencies. It was only by doing this that the company would be able to adapt to change and provide its customers with multi-service solutions and high-value support. This involved moving away from being a vertically integrated organisation.

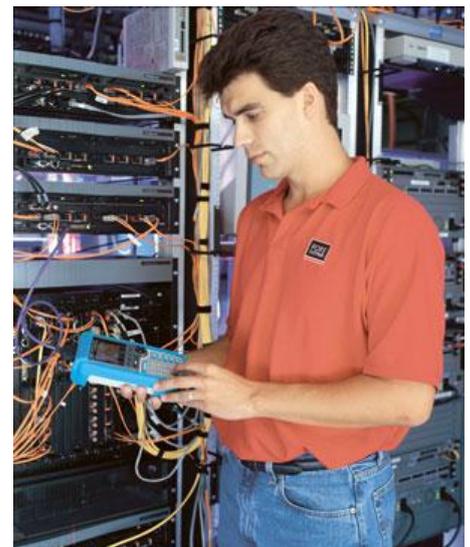
In the past emphasis was simply upon supplying equipment for telecommunication companies. The newly formed Marconi Communications is concerned with being a market-sensitive organisation, capable of providing business solutions for each of its customers through a process of world wide service support, which will eventually include the management of network operator's infrastructure.

The new role for Marconi Communications is to:

- understand the challenges of its customers
- propose solutions which help customers meet their challenges
- deliver what is promised
- help customers use its networks to create value.

Transmission technology

The investment made by Marconi Communications in transmission technology ensured it would go through a transformation unmatched by any other telecommunications equipment company. The transformation was focused on four elements:



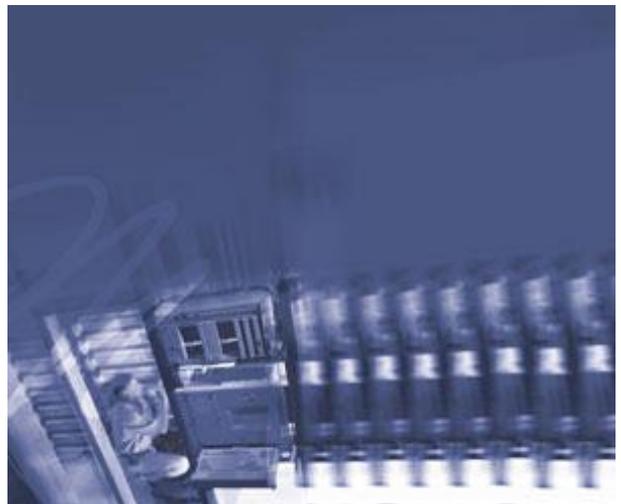
1. The management of the decline of narrowband switching as BT's investment programme in digital exchanges came to an end and the re-positioning of its business into higher growth segments.
2. Extension of control over its technology.
3. Broadening the customer base – in terms of both customer and geographical.
4. Acquisition of strategic technology for the next decade.

The largest part of the developing transmissions market is the supply of Synchronous Digital Hierarchy (SDH) equipment. SDH equipment is a broadband solution that has the power to increase network capacity and flexibility greatly, while at the same time streamlining management and cutting costs. Designed for the 21st century, the system is able to meet the expanding needs of electronic commerce, video-conferencing and a wide range of multimedia applications, such as interactive television and on-line entertainment. Investment by Marconi in SDH in 1992 resulted in it capturing the largest market share in this market. In its home markets (UK and Italy) Marconi has always enjoyed a healthy market share. As markets have changed and become less regulated, Marconi has been successful in winning business from many former state controlled telecoms industries across the world.

Conclusion

Marconi today is the world leader in SDH and supplies customers worldwide, from Australia and China to Latin America and most European countries*. Marconi Communications has also been successful in winning key corporate customers such as Microsoft, Shell, Intel and Disney.

Such sales sometimes require strategic partnerships to fully meet customer needs. For example, Ericsson has entered into an agreement to market the full range of Marconi's high-speed transmission equipment to customers across the world. SDH products will form a key element of the fibre-optic backbone of Ericsson's networks. It will also provide Ericsson with access to Marconi's development capability so it can support the further development of SDH technology.



The process of transformation has seen Marconi Communications reposition itself away from narrowband switching, to become the world's leading supplier of broadband transmission equipment. In responding to this role, the business has accessed different market segments and broadened its customer base. The new liberalised world of telecoms has enabled Marconi to enter and develop in fast growing markets in the face of established and well developed competitors.

In a changing industry, a business is only as good as its next product. Being a first-mover is a key element to sustaining Marconi Communications' competitive position. This involves thorough research and development to produce new products which meet customer needs.

** SDH equipment is not sold in North America, which has its own equivalent transmission technology, SONET. SDH and SONET equipment are not compatible.*