



NEAR EAST UNIVERSITY

**INSTITUTE OF APPLIED
AND SOCIAL SCIENCES**

**THE EFFECTS OF INFORMATION TECHNOLOGY (IT)
ON COMPETITIVE ADVANTAGES:
THE CASE OF CYPRUS TURKISH AIRLINES (CTA)**

Pembe Eminsel

Master Thesis

Department of Business Administration

Nicosia – 2002



**Pembe Eminsel : The Effects Of Information Technology (IT)
On Competitive Advantages: The Case Of Cyprus Turkish Airlines (CTA)**

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ABSTRACT

This paper aimed to investigate and demonstrate the role of information technology in gaining company competitive advantage.

Literature defined competitive advantage as arising from a match between a firm's distinctive competencies and the factors critical for success within its industry. "When a company achieves this match, it will deliver superior perceived value relative to company must have a clear understanding of three things: its distinctive competencies, the industry in which it competes, and the overall business environment. If a firm's distinctive competencies allow it to attain the low-cost position in its industry, it cannot afford to lose ground to rivals seeking to leapfrog it. If a company competes via differentiation, it must be continually innovate to maintain or enhance the perceived uniqueness of its products. Beyond this, it is necessary for a company to assess costumer perceptions.

Use of Porter Models throught the paper demonstrated that Information Technology assists in gaining competitive advantage at every segment of the value chain and by affecting the forces of competition.

CTA was used as a case study. The failure of CTA on gaining a competitive advantage from Information Technology applications was explained as information systems and general business-related issues and management authority and responsibility.

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List of Abbreviations

SPIR	Strategic Planning For Information Resources
CIO	Chief Information Officer
IRM	Information Resources Management
IT	Information Technology
CTA	Cyprus Turkish Airlines
TA	Turkish Airlines
GDP	Gross Domestic Product
TRNC	Turkish Republic of Northern Cyprus
UK	United Kingdom
US	United States
IATA	International Transportation Aviation
PC	Personal Computer
RAS	Remote Access Server

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THE EFFECTS OF INFORMATION TECHNOLOGY (IT) ON COMPETITIVE ADVANTAGES: THE CASE OF CYPRUS TURKISH AIRLINES (CTA)

CHAPTER I

1. INTRODUCTION

In seeking success, managers are especially aware of the influence of the firm's environment. The firm is connected to the elements in its environment by flows of both physical and conceptual resources. Firms attempt to gain a competitive advantage by managing the resources flows, including those of information. The firm's information resources include more than the information itself. They also include hardware, facilities, software, data, information specialists, and users of the information.

Managers on all levels engage in planning, but the plans of the top-level managers extend far into the future. These strategic plans identify what the firms is to achieve five, ten, or more years in the future and spell out how these objectives are to be met. As the executives prepare the strategic plans for the firm, similar plans are made for each of its business areas. Business area strategic plans describe how each of these areas will contribute to the achievement of the firm's objectives.

The activity of identifying the information resources that the firm will need in the future, acquiring those resources, and managing them is called strategic planning for information resources (SPIR). SPIR is a responsibility of all managers, but the managers of the information services organization plays the key role. The title CIO, for chief information officer, is often used for the top information services manager.

Of all the recent innovations in computer use, none has had a greater impact than end-user computing. End users are now developing many of their own applications. This trend will continue and will produce overall benefits of the firm, although not without some serious risks. The risk can be minimized through proper management controls.

When the firms managers recognize information as a strategic resource, establish policies to apply that resource in a strategic way, and follow up to ensure that the policies are carried out, the activity is called information resources management, or IRM. *IRM is a concept that integrates the other concepts of Competitive Advantage, Chief Information Officer, and Strategic Planning for Information Resources, and end-user computing.* As such, IRM provides a framework for effective computer use.

1.1 Competitive Advantage

A firm can achieve competitive advantage in many ways, such as by providing products and services at a low price, providing products and services that are better than those of the competitors and meeting the special needs of certain market segments. **In the computer field, competitive advantage refers to the use of information to gain leverage in the marketplace.** The firm does not have to rely entirely on superior physical resources when engaged in competition. Rather, superior conceptual resources-data and information-can be used well. The firm managers use conceptual as well as physical resources in meeting the strategic objectives of the firm.

1.2 Information Technology

Information technology is more than just computers. It must be conceived of broadly to encompass the information businesses create and use as well as a spectrum of increasingly convergent and linked technologies that process the information. An important concept that highlights the role of information technology is the "value chain". This concept divides a company's activities into the technologically and economically distinct activities it performs to do business (marketing and delivery to buyers, support and servicing after sale, installation, repair, and parts inventory management, for example). **Information Technology is permeating the value chain, transforming the way value activities are performed and the nature of the linkages among them.** Every value activity creates and uses information of some kind. A

logistics activity, for example, uses information like scheduling promises, transportation rates, and production plans to ensure timely and cost-effective delivery. Information technology is also affecting competitive scope and reshaping the way products meet buyer needs.

Information is changing the rules of competition in three ways:

1. Advances in technology are changing industry structure,
2. Companies are using IT to create competitive advantage,
3. It is spawning completely new businesses. Senior executives need to:
 - Assess information intensity,
 - Determine the role of information technology in industry structure,
 - Identify and rank the ways in which information might create competitive advantage,
 - Investigate how information technology might spawn new businesses, and
 - Develop a plan for taking advantage of information technology.

CHAPTER 2

2. PROBLEM SITUATION

2.1 Problem

The main theme of this paper is to try to explain "How IT is used as a competitive weapon for new business creation and changing the rules of the game in existing business". We are using Information Technology, in every part of our lives; at work, at educational establishments and at homes, but we don't know much about it. What is Information Technology? How can we use it to gain competitive advantage? Competitive advantage grows fundamentally out of the ability of a firm in creating value for its customers. The generic competitive strategies are defined as the search for a favourable competitive position within the industry and the choices are cost leadership, differentiation, focus or getting stuck in the middle.

2.2 Research Objectives

The main area of interest of this research was to explain and demonstrate to link between the firm's competitive advantage and Information Technology (IT) use as usually described in literature.

The following questions were set as research questions throughout the assignment.

- What is competitive advantage?
- What are the theories and models behind the competitive advantage of companies?
- What is Information Technology?
- What are the benefits of Information Technology to firms?
- How does Information Technology contribute to firm's competitive advantage throughout the value chain?

2.3 Methodology

Apart from scanning the relevant literature on the subject the main methodology used was the case study method. Namely, Cyprus Turkish Airways, was picked as the case study company because of its being a national company with data relatively more available.

The steps in the methodology involved;

1. Literature search on the theories and models of competitive advantage and Information Technology.
2. Michael E. Porter's models were used to demonstrate the link between competitive advantage and Information Technology within the case study.

CHAPTER 3

3. COMPETITIVE ADVANTAGE AND INFORMATION TECHNOLOGY

Competitive advantage is defined as arising from a match between a firm's distinctive competencies and the factors critical for success within its industry. "When a company achieves this match, it will deliver superior perceived value relative to company must have a clear understanding of three things: its distinctive competencies, the industry in which it competes, and the overall business environment. If a firm's distinctive competencies allow it to attain the low-cost position in its industry, it cannot afford to lose ground to rivals seeking to leapfrog it. If a company competes via differentiation, it must be continually innovate to maintain or enhance the perceived uniqueness of its products. Beyond this, it is necessary for a company to assess costumer perceptions.

In the 1960s and 1970s, when many definitions of organizational technology were being developed. IT was largely nonexistent with computers being almost entirely confined to the world of mainframes and backroom functional applications. Technology was conceptualised in terms of technical complexity (Woodward, 1965); operations technology and variability (Pugh, Hickson, Hinings & Turner, 1969; Hickson, Pugh & Pheysey, 1969); interdependence (Thompson, 1967); routine-nonroutine (Perrow, 1967, 1970), and manageability of raw materials (Mohr, 1971). Following Perrow's (Perrow, 1967) suggestion, we propose that technology should be viewed broadly as the process of managing the uncertainty and risk surrounding the transactions necessary to convert inputs into outputs (Thompson, 1967). Given that today IT has become a primary means of managing and reducing the uncertainties surrounding production and administrative processes we see technology and T as inextricably linked.

Theoretically it has been noted that IT must be tightly coupled with strategy (e.g., Holland, Lockett & Blackman, 1992; Porter & Millar, 1985) because IT affects strategy and strategies have IT implications (e.g., Bakos & Teachy, 1986), yet theoretical or empirical treatment of the way IT moderates the effects of strategy on organizational outcomes such as efficiency and innovation or performance in general has not been a recent focus in top management journals. This is somewhat surprising given that IT can

be instrumental in both shaping core capabilities and integrating capabilities into the organization context making them apparent at all organizational levels (Ciborra & Lanzara, 1990). Moreover, IT capabilities can be difficult to imitate since they are not just present in physical information systems, but in the organization specific information technologies developed inside the organization over time.

Competitive positioning and the ability to pursue a low cost and/or differentiation strategy ultimately depend on a firm's ability to increase efficiency, quality, innovation, and customer responsiveness (Porter, 1996; Prahalad & Hamel, 1990). Since IT moderates the way strategy affects performance, the implications of different forms of IT for both the pursuit of a strategy and for determining its effectiveness deserves consideration. For example, one advantage of IT is knowledge leveraging (Venkatraman, 1994), which involves sharing and integrating cross-functional expertise through appropriate forms of technology. Benefits from knowledge leveraging include the development of synergies and delivery to customers of value-added services and products, which in turn may result in competitive advantage in the form of product or service differentiation.

IT investments do have positive effects on the announcing firm's stock price (Dos Santos, Peffers & Mauer, 1993), several authors have suggested that actual returns to organizations from investment in IT are not sufficient to back up claims of their performance-enhancing advantages. Despite broad claims by experts like Greenspan (2000) that the performance gains-from both efficiency and innovation--that stem from IT are one major cause of record firm-profits in the 1990s, some suggest that there is little evidence that investments in new IT applications have a positive impact on internal measures of firm performance such as market share or profitability (Dos Santos & Peffers, 1995) and that these dollars might be better spent elsewhere (Baily & Chakrabarti, 1988; Roach, 1987).

CHAPTER 4

4. PORTER MODELS THEORIES

4.1 Porter Competitive Model

The Porter Competitive Model shown in Figure 4.1 is used to understand and evaluate the structure of an industry's business environment and the threats of competition to specific company. A benefit of its use is that it helps to avoid viewing a company's competitive environment too narrowly. The use of the model duplicates the same logic that an engineer would follow. It breaks an industry into logical parts, analyses each part and puts the parts back together within the industry's structure.

It should be noted that this model was not developed specifically for analysing the competitive role of information systems. It is a broad analytical tool used by people who run entire business or major functions within a business to assess competitive position. Thinking competitively is essential to assessing the competitive role of information systems, since strategy should dictate how information systems should be used. At the same time, information systems make new strategies and new ways of competing possible.

Specifically the model can be used to identify whether information technology can:

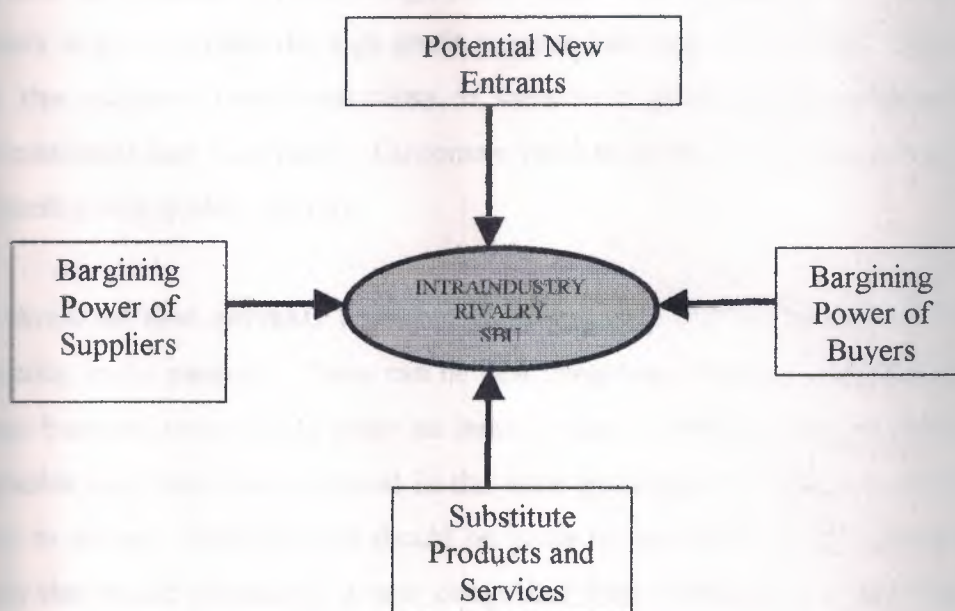
- Build barriers to prevent a company from entering an industry.
- Build in cost that would make it difficult for a customer to switch to another suppliers.
- Change the basis for competition within the industry.
- Change the balance of power in the relationship that a company has with customers or suppliers.
- Provide the basis for new products and services, new markets or other new business opportunities.

Porter tells us that competition in an industry is based on five forces, as shown in figure 4.1.

Intraindustry rivalry is the logical and necessary starting point in understanding an industry. It deals with the nature and degree of competition among companies in the same industry. To reach this level of understanding requires an analysis of the industry size, structure, market and financial performance, dominant companies, typical competitive strategies, critical core competencies, global implications, recent or impending trends and anything else that would significantly impact a company within the industry.

Figure. 4.1

Porter Competitive Model



Source: Porter, Michael E., *Competitive Strategy*, New York: The Free Press, 1980. p.4.

The **bargaining power of the buyers** comes from the customers of the products and services within the industry. Identifying customers is often easy but sometimes more difficult than might be expected. Is a company truly a customer or an intermediary? Are there multiple tiers of customers, as in the airline industry with its travel agents and passengers? A major consideration is whether the customer has significant power, why this power exists and what benefits this accrues to them.

The **bargaining power of suppliers** refers to the key providers of products and services that contribute to the competitive posture of companies within the industry. Again, it is important to assess any power implications. Does the supplier provide a unique or scarce product or service that cannot be duplicated from another company? Intel is an excellent example of a supplier with power as long as it can continue to provide high-performance microprocessors. This power certainly helps to explain the high profit margins that Intel has realized. Keep in mind that suppliers have motivations to maintain a good business relationship with customers and vice versa. Customers need to work at maintaining a good relationship with quality vendors.

The **threat of new entrants** represents the likelihood that additional will start competing in the industry. These can be new companies, existing companies that change business strategies to enter an industry that is new to them, or existing companies that have not competed in the same geographic or product area but decide to do so. Consideration should be given to barriers to entry. Are there factors that would discourage a new competitor from entering the industry or a specific market? These could be high entry costs or high switching costs for an existing customer to change to the new entrant company. Barriers to exist, to stop doing business in an industry, can also serve as a barrier to entry.

The final force in the model is the **threat of substitute products or services** that would be viable alternatives to those offered by companies in the industry. Consideration should be given to the substitutes and why buyers would find them attractive.

To establish a strategic agenda a company, identified as the **strategic business unit**, must understand how the five forces work in the industry and how they affect the company in its particular situation. Assessing the competitive risks is the first step in developing a competitive strategy, which will lead to tactics that will enable the company to realize its goals. Information systems are a potential key ingredient in this process. It is necessary to understand both the industry-level changes that can be brought about by the developing information systems and the potential impact on the company.

4.2 The Strategic Business Unit and Competitive Strategies

The strategic business unit, the company being analysed, has two basic objectives:

1. To create effective links with buyers (customers) and suppliers.
2. To build barriers to new entrants and substitute products or services.

To understand the position of the strategic business unit within the industry requires an understanding of the intra-industry rivalry. This dictates an understanding of the strategies of the major companies that are rivals of the strategic business unit. Porter's guidelines identify two basic strategies, differentiation and low cost. Every company must pick either one or the other as a primary strategy.

4.2.1 Differentiation Strategy

A differentiation strategy separates a company from its competitors by selection one or more needs that are valued by the customer and uniquely meeting these needs through superior performance. This approach should selectively add cost if necessary to do so. The ultimate reward to the companies that successfully implement a differentiation strategy is the ability to charge premium prices.

The sustaining of differentiation strategy depends on the durability of the difference as perceived by the customer. Multiple source of differentiation obviously helps. The ability to sustain this strategy also ties to whether the differentiated product has a cost advantage. It is important to remember that a differentiation strategy is usually costly. Common pitfalls in differentiation include:

- Falling to meet customer expectations regarding value
- Looking too narrowly for sources of differentiation
- Charging an excessive price premium
- Falling to understand the costs of differentiation
- Ignoring changing signals from customers regarding value
- Creating differentiation that is easily duplicated by competitors

4.2.2 Low-Cost Strategy

A low-cost strategy means that cost is the primary factor on which a strategy will be based. In pursuing this strategy it is important to remember the following points.

- There is only one winner in a least-cost competition.
- The sustainability of a cost advantage depends on the cost drivers underlying it.
- Multiple source of cost advantage increase its sustainability.

- Primary low-cost sources include economies of scale, tight cost control in all facets of the business, proprietary knowledge and process, unique linkages and alliances that are consistent with this strategy.
- Cost reduction must be emphasized in most, if not all, functions within the organization.
- Information system can be exploited to accomplish cost reduction.

A low-cost strategy can be sustained if better than average return can be reinvested in improved facilities, equipment and process.

4.2.3 Supporting Strategies

In addition to the two basic strategies, there are three strategies that can support them. They are innovation, growth and alliance. A company can elect to pursue none of these, all of them or combinations of these supporting strategies.

Innovation Differentiation through innovation is a common combination of a basic and supporting strategy. It would be accurate to say that Charles Schwab's strategy was differentiation, growth and innovation. Innovation was based on its ability to provide computer -based applications in support of the other two strategies.

Growth Size can be necessary factor for company to sustain its business strategies and achieve success. Federal Express is a good example of a company with a strategy that needed to realize package volume growth to justify the large amount of capital equipment involved in its delivery network.

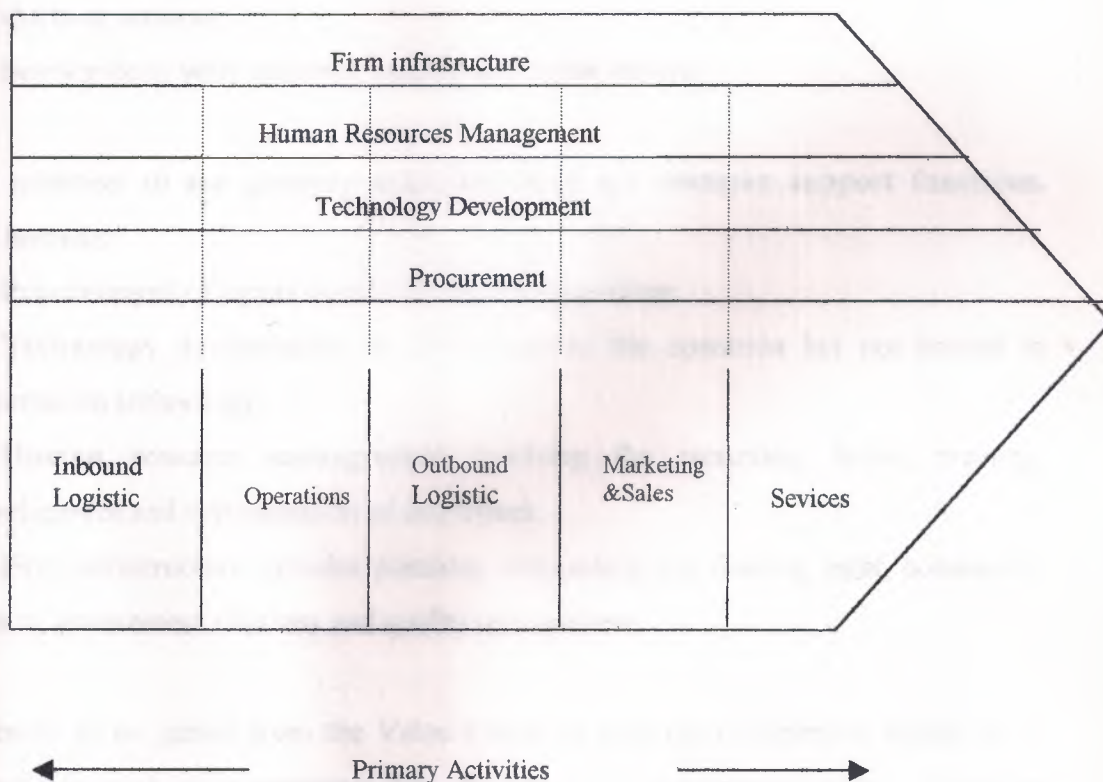
Alliance No one says that a company must do everything itself. Alliances that really work are difficult to establish but can be used to support a strategy that otherwise would be impossible to implement. The airlines use alliances to implement and operate passenger reservation systems.

4.3 Porter's Value Chain

Unlike the Competitive Model, it focuses internally within an organization. It was developed as a strategic method for examining all the activities a firm performs and how they interact, as a basis for analysing the sources of competitive advantage. The relevant level for constructing a Value Chain is a firm's activities in a particular industry. The complete generic value chain is depicted in Figure 4.2.

Figure 4.2

Generic Value Chain



Source: Porter, Michael E., *Competitive Advantage*, New York: The Free Press, 1985, p.33.

It is important to remember that the Value Chain is a structure. The actual contents of a Value Chain for a specific company determine a source of competitive advantage.

There are five primary activities involved in competing in any industry, as shown Figure 4.2. Each category is made up of multiple activities that depend on the company, its strategies and the industry in which it competes. **The primary activities include:**

- **Inbound logistics** involves receiving, storing and disseminating inputs to the product.
- **Operations** transform inputs into the final product.
- **Outbound logistics** collects, stores and physically distributes the product to customers.
- **Marketing and sales** identifies markets and how customers buy the company's products or services.
- **Service** deals with customer support and repair service.

In addition to the primary activities there are common support functions. These include:

- **Procurement** of inputs used in the firm's value chain.
- **Technology development** in every facet of the operation but not limited to information technology.
- **Human resource management** involving the recruiting, hiring, training, development and compensation of employees.
- **Firm infrastructure** includes planning, accounting and finance, legal, community affairs, government relations and quality management.

The benefit to be gained from the Value Chain, as with the Competitive Model, is to systematically evaluate a company's key processes and core competencies. Attention should be particularly given to strengths and weaknesses relative to the primary factors that would contribute to the company's ability to compete. It is important to identify discrete activities as well as where these activities can be linked. How one activity is performed affects the cost and performance of another. Established effective links among key activities can be a powerful source of competitive advantage.

CHAPTER 5

5. AIRLINE INDUSTRY ANALYSIS

5.1 Description of the Industry

The airline industry is an important component of today's global economy. Over 1,25 billion passengers per year rely on the world's airlines for business and vocation travel. Approximately a quarter of the world's manufactured exports by value are transported by air. Since the first jet airliner flew in 1949, use of commercial aviation has expanded more than 65 times.

The industry is mature but is still changing and growing. The passenger segment of the airline industry is the largest. In 1995 it accounted for over \$69 billion in revenues of 73,7 percent of the industry's total revenues. Other major segments include freight and express (9 percent), charter (3,5 percent), and mail (1,3 percent). Economically, the airline industry is an imperfect oligopoly, in which a few carriers dominate in long-haul passenger traffic. Several dozen small carriers compete for short-haul flights. The Department of Transportation in US classifies air carriers by the size of their revenue base. In the United States, 34 carriers have a fleet of 25 or more aircraft.

Major Airlines: Annual revenues exceed \$1 billion; American, United, Delta, Northwest, Southwest, and US Airlines, Each have fleets of 300 or more aircraft.

National Airlines: Annual revenues are between \$100 million and \$1 billion; more regional in focus with smaller seating capacities.

Regional Airlines: Annual revenues are less than \$100 million; commuter lines and start-up carriers.

Airline industry demand is cyclical. Travel generally follows economic activity. Economic models for forecasting airline traffic are commonly based on projections for gross domestic product (GDP), disposable personal income, and consumer confidence levels. While air traffic volume reflects economic factors, the cost and convenience of alternative models of transportation also impact air traffic. Demand for discretionary

travel, such as vacations, tends to be more price sensitive. In recent years, corporate travel budgets have also become price sensitive. High fares stifle air traffic demand, while low fares spur greater demand.

5.2 Potential /Prospective for Growth

The airline industry remains one of the fastest growing sectors of the world economy. Passengers and freight traffic is expected to increase at an average annual rate of 5 to 6 percent between 1997 and 2010. This is significantly greater than the expected growth of global GDP. By 2005, the number of people travelling by air is projected to exceed 2,5 billion a year. Growth in air travel will be led by the Asia market. Demand for this region is anticipated to grow by an average of 8,6 percent annually between now and 2010.

5.3 Competitive Structure

Ten major airlines (airlines with annual revenues over \$1 billion) currently account for over 75 percent of all operating revenue and 90 percent of passenger revenue. The other 10 percent are made up of over 100 airlines. The market share of other airlines has been increasing at the expense of the major airlines.

The competitiveness in the airline industry was enhanced by deregulation in 1978. Deregulation allowed airlines to fly wherever they wished. It also allowed new small airlines to compete with the existing major airlines. Some small airlines have done well with point-to-point, short-haul, and high frequency operations.

Airlines do not sell a tangible product but are simply suppliers of transportation. Aside from certain frills, the service airlines provide is basically undifferentiated. Some of these frills are more legroom, better food, newer movies, telephone service, and most recently hook-ups for fax and online communication. Frequent flyer programs and rewards are also used to distinguish airlines from their peer.

Passenger pricing has become more and more transparent, particularly due to consumer access to fares on the Internet. In sum, the airline industry is highly competitive.

Besides competing with each other on service and price, airlines compete with variety of transportation modes, including **automobiles, railroads, and buses**. Airlines use frequent flyer programs to build brand loyalty and distinguish themselves from the competition. Frequency flyer programs have been developed in an attempt to gain customer loyalty and promote repeat business. Frequent flyers represent only 8 percent of the total number of passengers. The miles they fly equal 45 percent of all miles flown. Satisfying these passengers can be key to an airline's success.

5.4 Technological Investment And Analysis

Technology presents a tremendous potential to cut costs and simplify the process of air travel. The airline industry has improved its operating efficiency by applying new information and communication technologies. Staffing levels can be cut because computer, modems, and ATM-like machines enable fast and efficient communication and ticket distribution.

In 1995, airlines established **home pages** on the World Wide Web. These sites display information about schedules and fleets, contain financial and promotional material, give listing of in-flight movie offerings, and let travellers check the status of their frequent flyer accounts. Since 1996, ticket less travel enabled ticket purchases to be made on the web. **Once the reservation paid for, passengers can board the airline by showing a valid driver's license.** This eliminates the security surrounding ticket stock as well as the accounting procedures required to tract the use tickets.

In 1997, 2 percent of air travel reservations were made through **Internet bookings**. As travellers use the Internet to obtain frequently sought information, airlines are cutting customer service operations. The Internet makes airfares publicly available and comparable on the World Wide Web, This enables consumers to compare and shop for the lower price.

Airlines are using technology to reduce operating costs. Early in 1995, the airline industry realized the partial elimination of the traditional paper ticket. The "electronic ticket" was its replacement. It brings significant savings to airlines in the cost of ticket distribution. Whether passengers welcome the change is not entirely clear.

The airline **smart card** is another new product. It provides frequent travellers with the ability to quickly identify them, board a flight, obtain a ticket, and pay for other products and services. It also saves airline ticket distribution costs, allows more passengers use of self-service facilities, and provides a better means of identification.

Most major airlines are part of an intricate computer system that enables travel agents to book flights for customers. Major airlines are able to offer a high concentration and variety of flights with availability. This makes it easier for agents to schedule. In addition, major airlines are able to offer more incentives to travel agents who sell the airline seats.

5.5 Importance of Information Technology Applications to Airlines

Information technology plays a major role in almost every aspect of the operation of an airline because of the high information content. Volumes of data on passengers, flights, meals, etc. need to be processed.

At the mention of the airline industry and computers, most people think of passenger reservation systems. While these passenger service systems are significant, they are not the only important computer application within most airlines. Sophisticated operational information systems are required to effectively manage equipment, personnel, flight scheduling and contingency planning. Yield management is critical to the profitability of most airlines. This involves analysis of demand versus capacity on every flight with pricing decisions made accordingly. Flight operating systems involve a computer in the cockpit of the airplane that deals with throttle setting for take-off, weather conditions while en route and gate assignments upon arrival.

5.6 Benefits of Information Technology System

Convenience to Customers This has been the primary motivation for the passenger reservation systems. This ability to make a reservation for an entire trip, be assigned a seat, receive a boarding pass to eliminate standing in line, request a rental a hotel in multiple cities, arrange for a special meal and conveniently change your plans before or during the trip, are all examples of benefits made possible by this type of system.

Knowledge of Customers This benefit was gained through the frequent-flyer program Advantage. The airline wanted to know whom its better customers and tried to increase the loyalty of these passengers by rewarding them for the amount of business they did with the airline. From a data-gathering standpoint the program work very well. Most passengers get upset if they do not receive frequent-flyer points; so they carefully identify themselves when take a trip. Although a large number of people signed up for the program the loyalty factor has not been as successful as they had hoped. People who fly a great deal tend to take the first available flight to their next destination.

Providing a Foundation for Other Systems This was a major benefit of the computer reservation system. The data regarding both the better customers and all passengers is used to analyse the logic of routes, frequency of flights, ticket structure and prices. The yield-management system mentioned previously is a key factor in realizing a profit for the airline. A typical flight can have as many as fifteen to seventeen differently priced tickets. The yield-management system deals with how many tickets in each category should be sold for each flight. A key consideration is how many tickets to hold until the last minute to accommodate business travellers who would be charged at a higher rate.

Building a Base for Other Business In an age when innovation, efficiency and up-to-date technology are important business success factors, AMR's information and management-services business provide a significant competitive advantage (AMR 1993 Annual Report, p.25). These information systems capabilities within have been marketed by American to other airlines and businesses in general. They designed and built a reservation system for the French railroad and Aeroflot in Russia. In addition to

consulting and systems design they provide telemarketing services, system training, ground services and investment services.

The challenge for the airline industry in general, as it relates to information technology is to keep pace with data management requirements that are increasing significantly on an annual basis, while maintaining the system reliability required to compete.

5.7 Successful Airlines and Information Technology Applications

While most airlines in the world recorded major losses from 1990 through 1993, there have been four consistently profitable carriers; Singapore Airline, British Airways, Southwest Airlines and Cathay Pacific.

Apart from good strategic management in creating customer value on improved customer services, Aircraft utilization and cost saving reservations all these airline companies are known to have been pioneers in Information Technology applications. For example, they have implemented a strategy to provide an infrastructure that includes excellent information technology and telecommunication networks, worldwide distribution linkages and a total value chain to support a diversity of manufacturing and service business.

CHAPTER 6

6. CASE STUDY (CYPRUS TURKISH AIRLINES)

6.1 History of Cyprus Turkish Airlines (CTA)

The Cyprus Turkish Airlines (CTA) was established on 4 Dec. 1974 with its Head Quarters in Nicosia, TRNC. The initiating capital was 40,000,000 TL (6,506,822,40 TL paid). There were two founding shareholders: *Turkish Airlines* (TA), representing the Republic of Turkey with fifty per cent of the shares and '*İnkişaf Sandığı*', representing TRNC also with fifty per cent of the shares.

The CTA was declared bankrupt in the middle of 1997 after continued losses over the years. This period is called "Period of Ümit Utku" after the name of the then CTA Director. In 1998, CTA started a new period with an agreement with a different organisation, Turban Ltd., representing the Republic of Turkey. This period is now regarded more successful giving CTA a new technical structure.

6.2 Mission Of The CTA

The mission of CTA is to create an air link for the TRNC with other countries transporting passengers in and out of the country from all over the world. This, however, is a difficult mission to establish given the political situation in Cyprus and the economic embargoes set on the TRNC. After the Greek Coup and the resultant Turkish intervention in 1974 Cyprus was divided in the Greek Cypriot Administration in the South and the Turkish Cypriot Administration in the North. The Turkish Cypriots then founded the Turkish Republic of Northern Cyprus although only recognised by Turkey. The new State had no airlines and the CTA was established with a mission to fulfil this gap.

6.3 CTA Market Segmentation

The market of CTA is divided into two segments related with the type of customers.

- Passengers
- Cargos

1. Passengers

All the TRNC peoples who want to go outside of the country and peoples who want to enter to TRNC with air travel. These customers groups have come into existence:

- Leaders of Government and Businessmen
- People who need medical treatments at developed countries,
- Tourists from Germany and other European Countries
- Turkish Cypriots from Abroad (mainly from London)
- Soldiers of Turkish Military Service whom are in TRNC, and their families. They are using air travel to enter the TRNC and go out side of country reliably, quickly and comfortably.
- Tourists for gambling from Turkey

In recent years, a new business area opened in the TRNC, presenting new market opportunities for the CTA.

There are five private universities (Eastern Mediterranean University, Near East University, International Cyprus University, Lefke European University, and Girne American University) in the TRNC. These universities are the source of potential customers made up of students who are coming to Cyprus for further education; the students' families are also potential customers for the Airline.

Priority Needs of Passengers

- ✓ Reliability
- ✓ Punctuality
- ✓ Good ground and flight Services

2. Cargos

Cargo refers to pockets that are under the twenty kilos. These pockets belong to persons or organisations.

Priority Needs of Cargo Customers

- ✓ Reliability
- ✓ Punctuality
- ✓ Cheap Price

6.4 Political Environment

Because of the political and economic embargoes, air travel to the TRNC is only possible via Turkey. The aeroplanes of the CTA need to land and register at Turkish Airports before flying to other destinations. For example, when flying to U.K. or Germany, CTA has to land and register at a Turkish airport, as Turkey is the only country recognising the TRNC which has legal airports. The same aeroplane coming back to the TRNC, it has to touch down in Turkey again, before come to TRNC. In addition, some countries like France does not even agree to this arrangement. No CTA aeroplane can land in French Airports under any circumstances. These political restrictions play a negative role for CTA's market potential and costs.

In addition, this procedure extends the flying and waiting times thus causing inconvenience for many customers.

When a CTA Airline flies to and back from the U.K. it goes through the following schedules:

From Ercan to İzmir. (The flight has to registered there).

From İzmir to Heathrow (U.K.).

From Heathrow to İzmir (The flight again registered).

From İzmir to Ercan.

If there were no embargoes:

From Ercan to Heathrow.

From Heathrow to Ercan.

This means that the CTA Company has double expenses both in costs and time for checking, personnel, safety, and passenger service operations

6.5 Legal Environment

Cyprus Turkish Airlines is regulated under the International Aviation Law like all other airline organisations. The International Aviation Law can't be local; it is a global law that all airlines organisations must comply in order to fly.

CTA is also regulated under the Laws of the Republic of Turkey under the Civilian Aviation Law. There are two basic aviation laws; Chicago and Varsova.

6.6 Financial Situation

The CTA suffered serious financial losses in the middle of 1997. It was declared bankrupt and than re-established as jointly owned by Turban Ltd, representing Turkey, and by the TRNC. A new executive management was also appointed. This period is more successful and reflects a better financial situation for the CTA. The CTA could

better control their expenses and work for profit. Today, The CTA is regarded as a very efficient airline company in financial terms within the boundaries of Turkey and the TRNC.

The CTA is being affected by the economical crisis that occurred in the TRNC and Turkey with rising foreign exchange rates for the last two years. The numbers of passengers have decreased when compared with the time prior to the crisis. This does not mean, however, that CTA was affected by the crisis in a great deal. CTA carries out all its transactions in USA Dollars isolating itself from the ill effects of the fluctuating exchange rates.

6.7 Competition

Since February 2001 the competitor of CTA was Istanbul Airlines, but now CTA has no competing airlines in Cyprus. Direct competition, however, exists from other providers of travel and freight services, mainly by ferries. Travel by sea to Turkey offers a cheaper alternative for segment of travellers. Most of the commercial freight in and out of Northern Cyprus is also carried this way. However, CTA still enjoy a monopolistic position in the year as a public company with over 700 personnel who are loyal to the company because of the state social security system and other job security measures.

Facing future direct competition, although not possible in the near future, CTA will need to upgrade its competitive advantage through offering a better customer value at a lower cost. The current personnel to passenger ratio is, for example, high undermining CTA's competitiveness.

6.8 Human Resource Management

The CTA has a department for Human Resources Management at its Central Office. This department has two functions; the recruitment and the training of personnel.

6.9 Contracts with Agents

CTA offers flight tickets for sale at their service points, and through independent Travel Agents. CTA has two type of contracts with travel agents; agents with IATA membership get 9 per cent commission and the non-IATA members get 8 per cent commission on the value of flight tickets sold.

6.10 Information Technology

Before 1997, CTA did not make much use of the modern technology. They were using only few PC's and 10-15 dummy terminals as a system to process data at the Central Office. All documentation was transferred from branches to Central Office in hard copies and was entered to computers collecting all information in digital forum. This process was not efficient; it was very hard and time consuming.

After 1998, CTA started a new period with different organization and different management. This new period brought more technology and efficiency to the CTA. New computer systems were acquired and a new IT system was established. In 1999, the CTA information processing was completely transferred to a computerised system. A Computerised networking system was established such that all CTA branches could share information with each other.

Now, CTA is connected and using local and global network systems, there are four network communications employed for in-office, inter-branch, and global communications with other airlines and services.

6.10.1 RAS (Remote Access Server)

The RAS is an offline (non-online) system that is not connecting all time to general system. If any branch want to transfer their accounting information connect to General Office System, they sets their dial-up connection. After, transferring information to RAS that is a server at the General Office, they cut the connection.

The aim of this server, the entering their data to the computer system and when finish the entering they could be transfers their information to the Central Office and the calculation analysed there.

Before many years, the branches was doing all the processing by hand using paper and bill, at the end of the month they transferred that documentation to the general office. The bills and paper checked there and made documentation.

After, they started to use computer system and the branches entered their information to the computer system, than they take print out the documentations and copy to disk. The copy of the documentations was transferring to the General Office and entering to the computer again there.

But now days they are using more technological computer system. The branches can be translating all the documentations to Central Office by using network system, so there is time consuming and doubly. The information is checked in the General Office.

The information doesn't to transfer the entire server, it's firstly transferring to RAS server, its stored there temporarily, than the information transferred to an Accounting Server because of to overcome the insecurity,

6.10.2 Accounting Server

Accounting Server is used by the Accounting Department. The Accounting Server is connecting to the Remote Access Server and receiving the information that transferred from branches. All coming-incoming analysis making Accounting Department by using collected information. This system doesn't connection with other network to security system. They are using the Accounting Programmed to entering their data to the computer system and analysing the information.

6.10.3 Mail Server

This is a local server that is using only in the office to sending and receiving messages to communication the personnel with each other. The personal can be sending the messages and documentations to other personnel and they can receive the messages from others.

6.10.4 Sita Server (SITATEX)

All the airlines are using Sita Server to communicate between each other. The Central Office of this system is in the Atlanta. The communication is very important thing for the airlines organizations.

6.11 CTA Financial Analysis

The following table represents the Income Analysis of the CTA with Global Industry rates provided for comparison;

CYPRUS TURKISH AIRLINES 1996-2001 INCOME ANALYSIS (U.S. Dollars)

Table : 1

	1996	1997	1998	1999	2000	2001	Average Change	Average Inc/Dec	Global Industry Rates **
SALES	52.092.414,31	60.391.497,25	50.935.277,19	49.314.765,10	76.157.586,15	60.468.307,21			
Index *	1,00	1,16	0,98	0,95	1,46	1,16	1,12	12%	3,6%
COST OF SALES	49.795.516,49	61.508.449,12	27.609.744,12	37.714.786,95	66.414.119,07	60.182.084,25			
Index *	1,00	1,24	0,55	0,76	1,33	1,21	1,01	1%	3,3%
GROSS PROFIT/LOS S	2.296.897,82	- 1.116.951,88	23.325.533,06	11.599.978,15	9.743.467,08	286.222,95			
Index *	1,00	- 0,49	10,16	5,05	4,24	0,12	3,35	235%	
MARKETING COSTS	1.891.251,57	2.274.218,71	2.631.206,83	2.875.117,11	5.532.065,68	6.314.946,79			
Index *	1,00	1,20	1,39	1,52	2,93	3,34	1,90	90%	
GENERAL ADMIN. COSTS	9.384.242,59	12.060.430,99	11.248.913,80	13.037.700,57	10.259.507,00	5.399.318,28			
Index *	1,00	1,29	1,20	1,39	1,09	0,58	1,09	9%	
NET OPERATING PROFIT/LOS S	- 8.978.596,34	- 15.451.601,58	9.445.412,44	- 4.312.839,52	- 6.048.105,61	- 11.428.042,12			
Index *	1,00	1,72	- 1,05	0,48	0,67	1,27	0,68	-32%	
Ratio of Sales to Sales%	95,59	101,85	54,21	76,48	87,21	99,53	85,81	0.9 times	
Gross Operating Profit to Sales %	4,41	-1,85	45,79	23,52	12,79	0,47	14,19	3.21 times	3.1%
Marketing Cost to Sales %	3,63	3,77	5,17	5,83	7,26	10,44	6,02	1.69 times	
General Admin. Cost to Sales %	18,01	19,97	22,08	26,44	13,47	8,93	18,15	1 times	
Operating Profit to Sales %	-17,24	-25,59	18,54	-8,75	-7,94	-18,90	- 9,98	7.26 times	2.9%

1996 : Base year

Anderson David, Managing Information Systems, Prentice Hall, 2000

Source : Cyprus Turkish Airlines.

Financial Data obtained for the CTA between the periods 1995 to 2001 were in Turkish Liras. Since, the Turkish Lira has experienced a downward trend in value against other currencies key income figures were worked out in U.S. Dollars based on the average annual exchange rates provided by the Turkish Republic Central Bank for the years 1996-2001 (See Appendix C). The breakdown amounts of the key income figures were shown as a percentage of sales, indexed to 1995 as the base year (See Appendix B).

The Income Analysis of the CTA carried out in Table 1 shows anomalies both within itself and when compared with Global Average Industry Rates. Clearly, insight present a clear picture on CTA's financial transactions. However, despite many attempts this was not possible as the CTA is a 'closed' organization. It is fair to comment there that CTA needs to be more 'transparent' if its mission is to contribute to the economic welfare of the Turkish Cypriot community as claimed.

Until the year 1999 sales from operations showed very little fluctuation from 1996 sales. However, in the year 2000 there was an increase by 46%. This jump in sales could be explained with the collapse of Istanbul Airlines adding to the market share of the CTA and the increase in the 'gambling tourists' arriving in Northern Cyprus. This exceptional year may help us to understand why the average increase in CTA sales was at 12%, almost as 3 times as the Global rates of 3.6%.

The fall in the cost of sales ratio in 1998 from 124% in 1997 to 55% is an anomaly. When we use examine the break-down of the cost sales in Appendix A, we see that this anomaly has arisen from the costs of fuel and oil, which were more than halved in one year! Clearly, with the rising fuel rates globally, either CTA has discovered a cheaper source of fuel somewhere, or that it was paying more than the market value previously. Despite this, however, the average increase in the cost of sales at CTA stood at 1% in 2001 more efficient than the Global average increase of 3.3 %.

Average gross profit margins stood at 14.19% in 2001, an average increase of 3.21 times as compared with the 3% increase of industry.

Net operation ratio was 7.26 times the -17.24% experienced in 1996 while the industry increase in 2001 was at 2.9%.

Perhaps the anomalies could be explained with the change of management in the late 1990's that lasted until 2001. The media during that period praised management for putting back the CTA into profitability and being able to add more aeroplanes the CTA fleet.

One thing is certain that CTA needs to revise its accounting principles and be more transparent to public seeking information. Only then, we could more rationally analyse its financial performance and on this case to be able to comment on the effects of IT instalment on company profitability.

CHAPTER 7

7. APPLICATION OF THE PORTER MODELS TO CTA WITH AN IT PERSPECTIVE

7.1. Generic Strategies to CTA

Using the Porter Competitive model we can analyse the industry structure, the competitive strategies and the power structure within the airline industry.

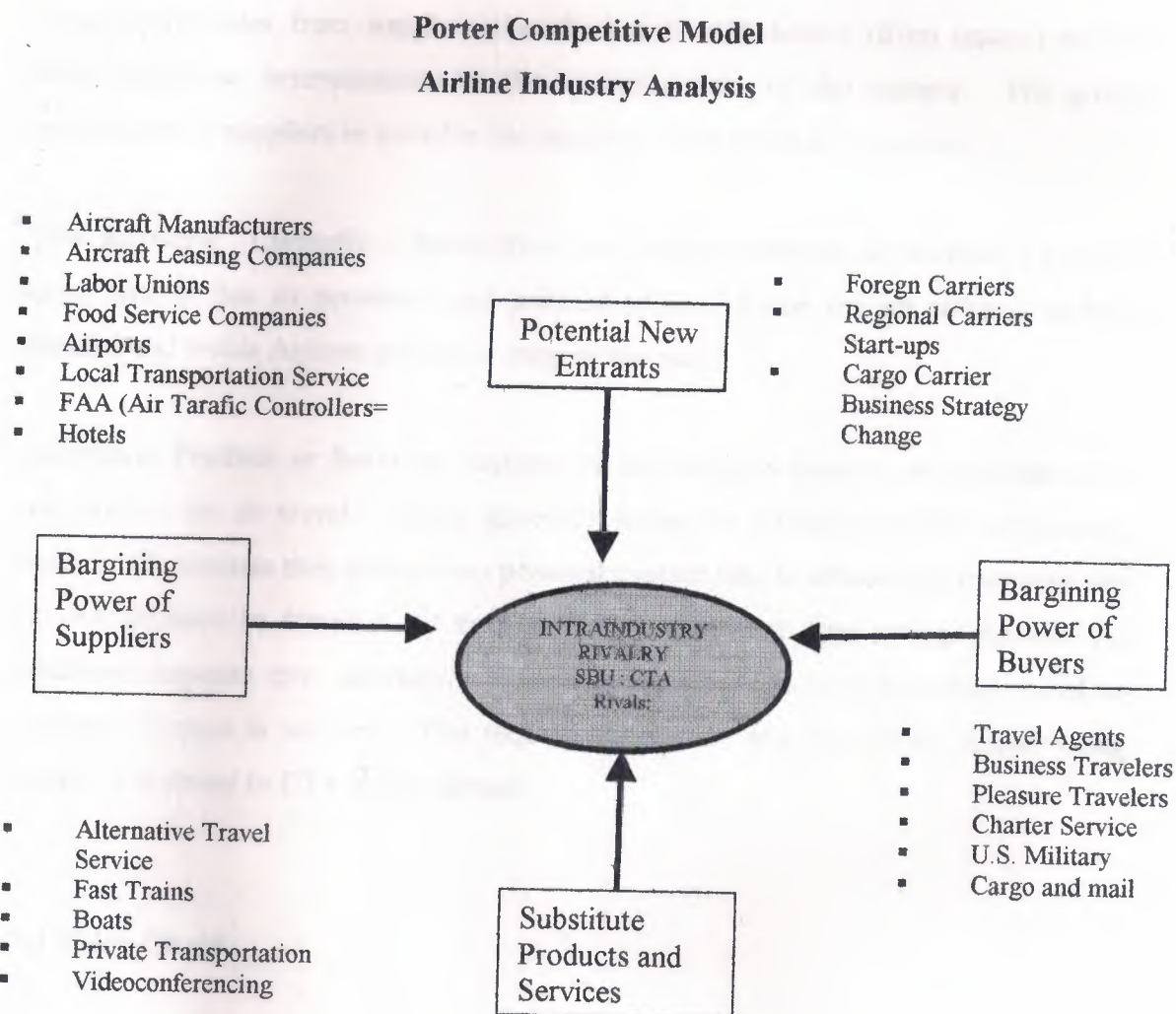
CTA is an independent airline with markets in Turkey and Europe. Its routes are described as short-haul with both hub-and-spoke and point-to-point route structures. Being a monopoly in Northern Cyprus, CTA cannot be regarded as a low fare airline. It earns premiums due to its monopolistic position and not due to any competitive advantage obtained through differentiation.

CTA's IT installations have a minor role in company relations. Due to this no cost advantages are obtained either. On Porter's generic strategies we could describe CTA as a company offering a non-differentiated product at a high cost. Clearly, in a competitive market this would be described as an "idiot strategy" (in Porter words) doomed to failure.

7.2 Competitive Forces Model to CTA

The application of the complete Porter Competitive Forces Model to the airline industry is shown Figure 7.1 below;

Figure 7.1



Source: Porter, Michael E., based on ideas in *Competitive Advantage*, New York: The Free Press, 1985.

There are limited forces on the CTA due to its being the only airline flying to and from Northern Cyprus.

CTA buyers: Like all other airlines CTA's passengers are the people who fly for business or personal reasons. In most cases, these individuals would have some power in picking a competitor airline. In CTA's case, however, buyers do not enjoy this power.

CTA suppliers: Suppliers are a significant competitive force in the airline industry. Three deliverables from suppliers-aircraft, fuel and all labour (from unions)-are the most significant determinations in the operating cost of the carriers. The power implications of suppliers in mixed in the industry. CTA is not an exception.

New Entrants: Currently, a threat from new airlines operating in Northern Cyprus is quite remote due to economic and political crises. Some private airlines, such as Istanbul and Noble Airlines are now a thing of the past.

Substitute Product or Services: Analysis of this category requires an examination of the motives for air travel. People generally choose to travel by air for two primary reasons: (1) because they desire more personal contact than is afforded by telephone and (2) the distance to travel is far enough that a significant time savings justifies the additional expense over alternative models of travel. The only substitute travel to Northern Cyprus is via sea. This requires more time and discomfort despite being cheap. The threat to CTA is very limited.

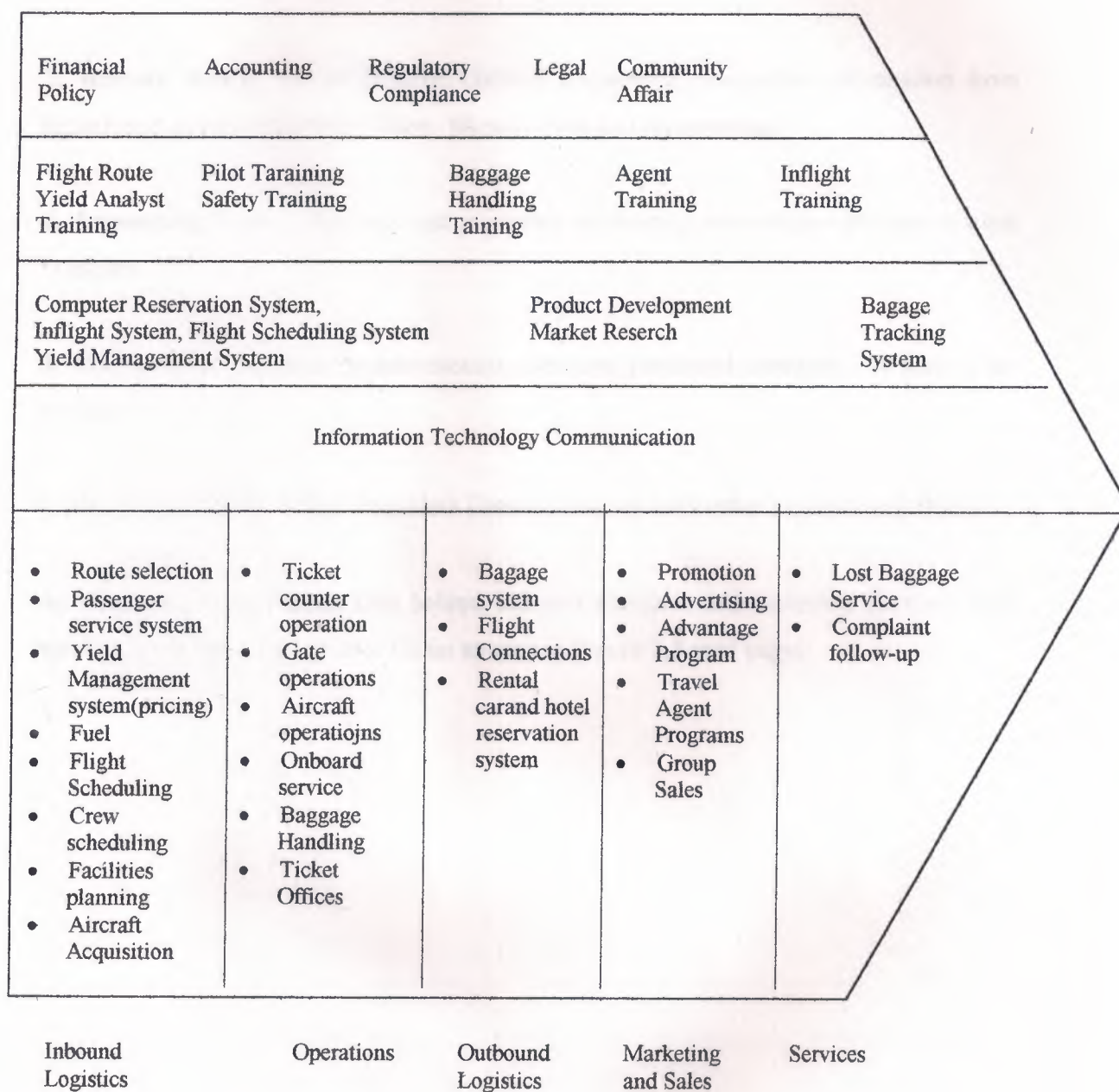
7.3 Value Chain

Information technology plays a major role in almost every aspect of the operation of an airline because of the high information content. Volumes of data on passengers, flights, meals, hotels, etc. need to be processed.

At the mention of the airline industry and computers, most people think of passenger reservation system. While these passenger service system are significant, they are not the only important computer application within most airlines. Sophisticated operational information systems are required to effectively manage equipment, personnel, flight scheduling and contingency planning. Yield management is critical to the profitability of most airlines. This involves analysis of demand versus capacity systems involve a computer in the cockpit of the airplane that deals with throttle setting for take-off, weather conditions while en route and gate assignments upon arrival. The Porter Value Chain is shown in Figure 7.2 to graphically explain the scope of IT use;

Figure:7.2

Airline Industry Value Chain



Source: Porter, Michael E., based on ideas in Competitive Advantage, New York: The Free Press, 1985.

When we examine the CTA, however, we see that IT installations have not been carried out with company competitive advantage or customer value in mind.

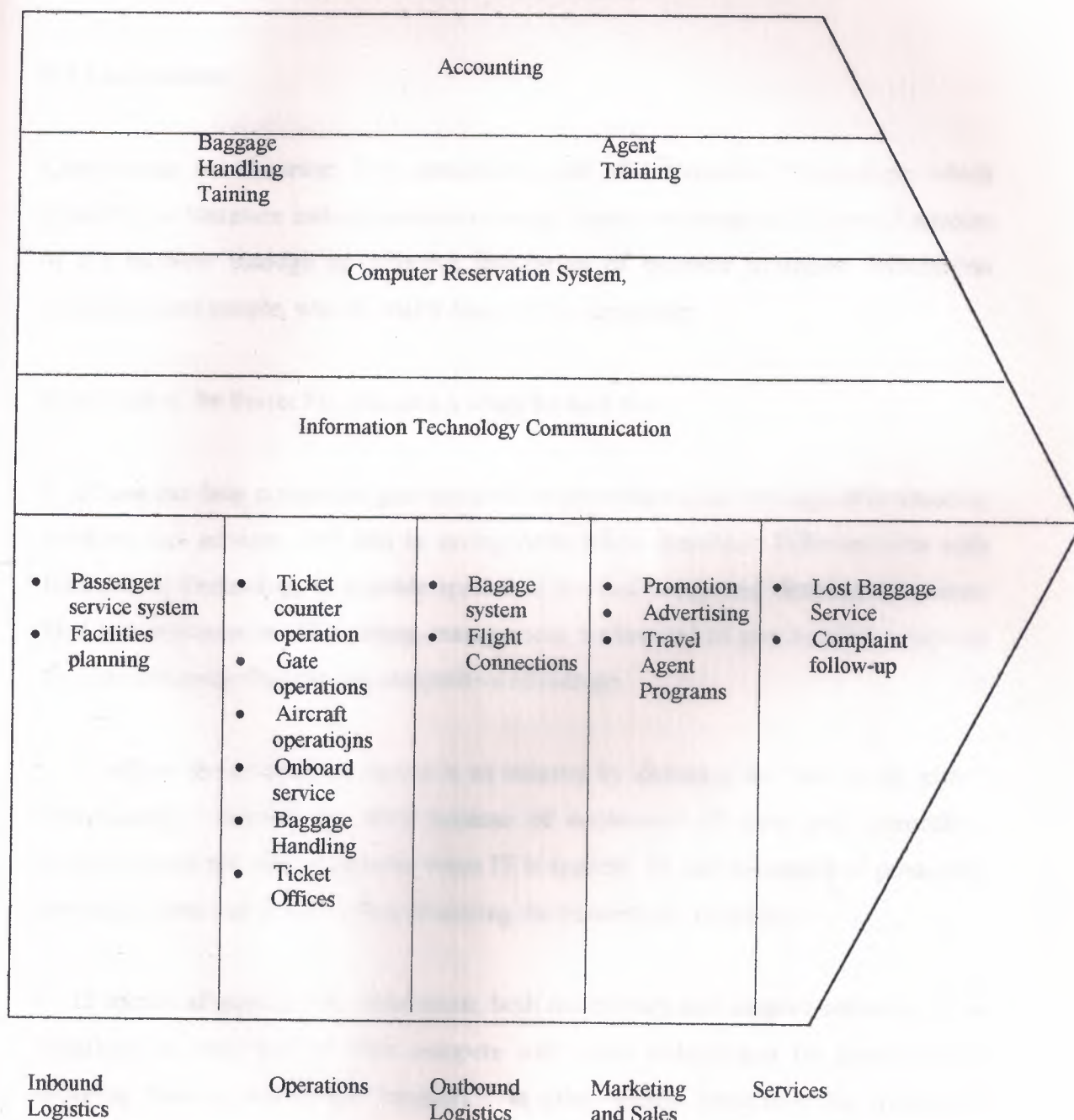
Current IT systems, include four different instalments:

- 1. Remote Access Server (RAS):** Gathers accounting reservation information from branch and agents at Central Office. (Reservation and Accounting).
- 2. Accounting Server:** Receives and processes accounting reservation information from branches.
- 3. Mail Server:** Provides communication between personnel members. A sort of an Intranet.
- 4. Sita Servet (SITATEX):** Provides communications with other international airlines.

As observed IT installation falls behind industry standards and therefore does not add much value to the CTA's Value Chain as seen in Figure 7.3 next page;

Figure: 7.3

CTA Value Chain



CHAPTER 8

8. CONCLUSIONS AND RECOMMENDATIONS

8.1 Conclusions

Conclusions on theories; The competitive role of Information Technology, which according to literature and experiences of some firms contributes to the overall success of the business through an effective integration of business strategies, information technology and people, was the major focus of this assignment.

In the light of the Porter Models used it could be seen that;

- IT use can help companies gain competitive advantage either through differentiating products and services, and also in saving costs where possible. Differentiation with Information Technology is possible applied to product design and distribution systems filed and processed on IT systems, management is observed to give a quicker respond to customer needs thus gaining competitive advantage.
- IT affects the competitive forces in an industry by changing the “rule of the game” continuously. Barriers to entry because of economies of scale and competitive advantages are not always possible when IT is applied. IT also is capable of producing substitute ideas and products thus enhancing the intensity of competition.
- IT affects all parts of the value chain; both the primary and support activities. It is significant to note that IT must compete with other technologies for prioritisation, including funding, within the company. In other words, sometimes the traditional information systems could be more effective than IT, and IT should not be employed without any consideration. Finally, it was observed that IT has become both a prominent and pervasive tool within most segments of the value chain.

Conclusions on CTA case and Information Technology; In the analysis of the CTA, competitive advantage gained by IT installations during the late 1990's was found to be very low. One could say that there were very little advantage gained from a move from the traditional information systems to IT at the CTA.

There were no extra profits gained. Increase the market share in the last few years was due to some local airlines closing down and not because CTA's gaining competitive advantage of any kind. We may explain the reasons for this lack of performance in two-fold. One, through comparing the IT used at other airlines and the CTA; and two, by looking at the possible failures at the planning stages of IT use.

At the mention of the airline industry and computers, most possible think of passenger reservation systems. This was the case at the CTA. As discussed within the project CTA uses four basic IT systems all aimed at passenger reservations and keeping accounting records. Successful airlines, however, makes further use of IT to gain competitive advantage. While these passenger service systems are significant, they are not the only important computer application within most airlines. Sophisticated operational information systems are required to effectively manage equipment, personnel, flight scheduling, and contingency planning. Yield management is critical to the profitability of most airlines. This involves analysis of demand versus capacity on every flight with pricing decisions made accordingly. Pricing decisions at the traditional methods of looking at the past and cyclical demand. Prices are determined at the beginning of a season thus taking a chance on the event changes in the business environment. Flight operating systems involve a computer in the cockpit of the aeroplane that deals with throttle setting for take-off, weather conditions while en route and gate assignments upon arrival. CTA has no such systems that save costs in operations.

The second main reason of the failed IT use at the CTA could be explained by looking at the planning stages for IT use.

If general business planning can fail produce the desired results, the same can be said for trying to integrate information systems into a business plan. Failure regarding information system at the CTA may fall into two general categories;

1. Information systems and general business-related issues. Here, the failure is related to the outcome being stated in technology terms and not business terms. People at the CTA either do not understand or simply do not accept the stated objectives and/or the approach of the company. They may have also failed because of their tendency to place blame on today's environment (Embargos), rather than project the CTA to a new and better way of doing things.

2. Management authority and responsibility. Management authority and responsibility factors at the CTA can also be the cause for a lack of IT planning success. These include a failure to support the plan of trying to avoid the results if averse. Clearly CTA's executive with 50% owned by a Turkish Company and the other 50% by Northern Cyprus is not a structure where sound responsibilities and decisions can be taken. Evidence on managerial inadequacies and quarrels are frequently read in the media.

As a result of applying IT to CTA the number of workers should have been reduced, but because of their Labour Union rights this could not be done. In addition to this, the change of government had effects employing more workers.

In general, this project concludes that business strategies do not compete with the use of information systems. The goal is for the business strategy to be successful with the support of the IT. We must keep in mind that business strategies can work without the use of information systems.

Information systems and IT can never be successful as a competitive advantage resource if they do not support the right business strategies.

8.2 Recommendations

In the light of the findings and the conclusions of this paper one could recommend that in order to gain a competitive application from computerized information systems, companies should;

- Ensure that IT planning matches with the business vision, mission and corporate objectives.
- Any IT considerations should be related to convenience and benefits to customers. Firms gain competitive advantage when they produce a better customer value than competition.
- IT application and planning should provide a foundation to other systems within current and future company operations.
- IT planning should not be based on mimicking other companies and it should not be carried out in a vacuum. The business should regularly check on its current resources and capabilities against the possible opportunities environment at every stage of IT planning.

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Management Structure

The company has five members serving on its Managing Board, three representing the Ministry of Turkey and two the

APPENDIX A

Board of Directors

Position	Name
Chairman	Mustafa OKU
Member	Abdullah CIRAÇ
Member	Aliye NURULLAH
Member	Aliye NURULLAH (TRNC)
Member	Aliye NURULLAH (TRNC)

Board

Position	Name
Chairman	Aliye NURULLAH
Member	Aliye NURULLAH

Executive Management

Position	Name
General Manager	Aliye NURULLAH
Financial Manager	Aliye NURULLAH
Human Resources Manager	Aliye NURULLAH
Production Manager	Aliye NURULLAH
Technical Operations Manager	Aliye NURULLAH
Quality Control Manager	Aliye NURULLAH

Management Structure

CTA currently has five members serving on its Managing Board; three representing the Republic of Turkey and two representing the TRNC.

Council of Managers

Chairman:	Sözer ÖZEL (TR)
Member:	Alladdin FIRAT (TR)
Member:	Ahmet NEYİDİM (TR)
Member:	Mehmet Ali ÖZYALÇIN (TRNC)
Member:	Erdal SÜREÇ (TRNC)

Auditors

Ece TUFAN (TR)
Bekir HINCAL (TRNC)

Departmental Structure

General Manager:	Zeki ZIYA
Asst. General Manager (Business and Commercial):	Ali KORAKAN
Asst. General Manager: (Finance and Admin):	Hasan BAŞOĞLU
Technical Operations Manager:	Mehmet GÜNDAL
Flight Operations Manager:	Fethi GÜLBARAN

Fleet Structure

The total number of passenger planes in the current fleet is seven with a maximum capacity for 1335 passengers. The average age of the fleet age is improved from 17,72 to 12,42 in the last two years. Details are as follows:

1- B- 727 TC- JBG "YAVRUVATAN".	Maximum passenger capacity 164
2- B- 727 TC- JEC "YEŞİLADA".	Maximum passenger capacity 164
3- A – 310 TC-JYK "ERENKÖY"	Maximum passenger capacity 230
4- A – 310 TC-JCO "LEFKOŞA"	Maximum passenger capacity 246
5- B-737/800 TC-MSO "MAGOSA"	Maximum passenger capacity 177
6- B-737/800 TC-MZZ "GÜZELYURT"	Maximum passenger capacity 177
7- B-737/800 TC-MAO "KARPAZ"	Maximum passenger capacity 177

Flight Destinations

TURKEY

Ercan-Adana-Ercan
Ercan-İzmir-Ercan
Ercan-Antalya-Ercan
Ercan-Ankara-Ercan
Ercan-İstanbul-Ercan
Ercan-Dalaman-Ercan

GERMANY

Ercan-İstanbul-Frankfurt-İzmir-Esenboğa-Frankfurt-İstanbul-Ercan
Ercan-İstanbul-Frankfurt-İstanbul-Ercan
Ercan-İstanbul-Frankfurt-İzmir-Ercan

United Kingdom

London; (Heathrow and Stansted Airlines);

Ercan-İzmir- Heathrow-İzmir-Ercan
Ercan-Antalya- Heathrow-Antalya-Ercan
Ercan-Antalya-Stansted-Antalya-Ercan
Ercan-İzmir-Stansted-İzmir-Ercan
Ercan-Dalaman-Stansted-Dalaman-Ercan

Manchester;

Ercan-Dalaman-Manchester-Dalaman-Ercan

Cta Service Offices

Cyprus

Nicosia

Head Office

Sales Office

Terminal Sales Office

Reservation

Cargo

Catering

Krenia

Sales and Reservation

Famagusta

Sales and Reservation

Ercan Airport

Sales Office

Passenger Services

Lost and Found Service

Turkey

Istanbul

Head Office in Mecidiyeköy

Feneryolu Kadıköy

Laleli

Atatürk Airport

Sabiha Gökçen Airline

Ankara

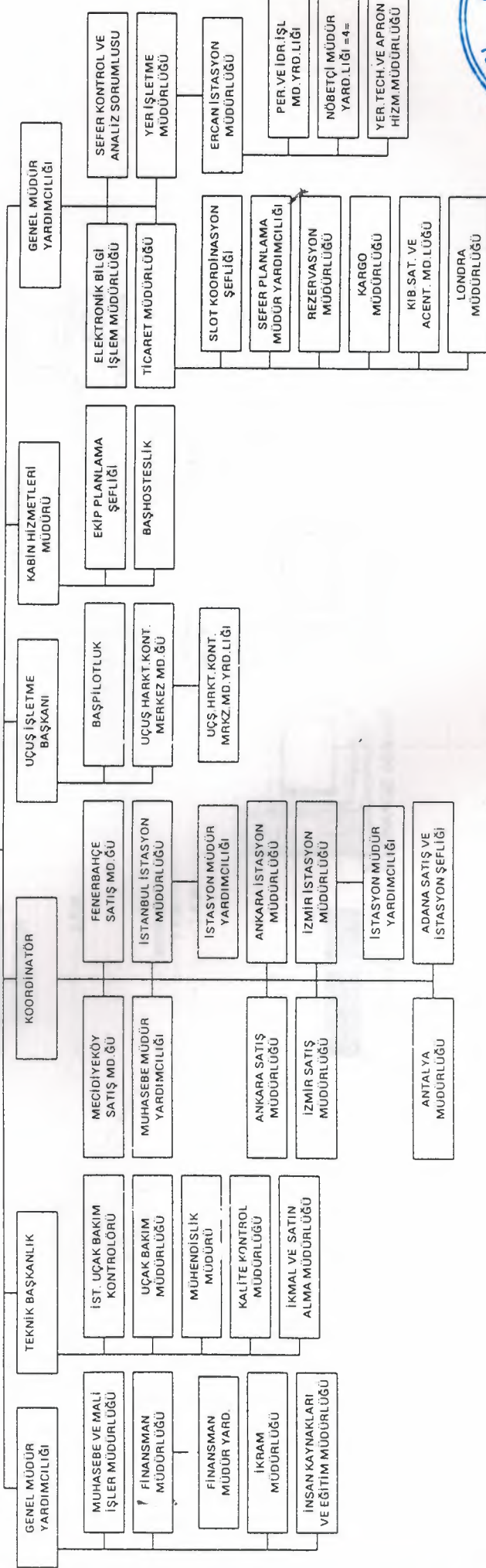
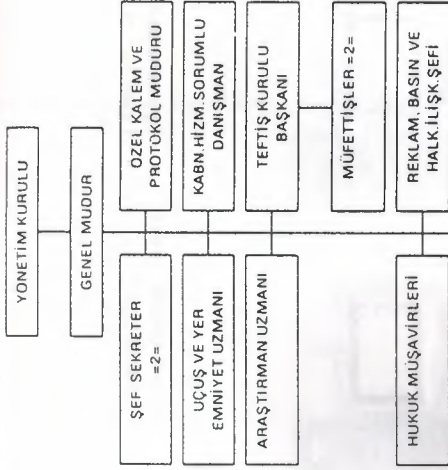
Kızılay Airline

Esenboğa Airline

İzmir

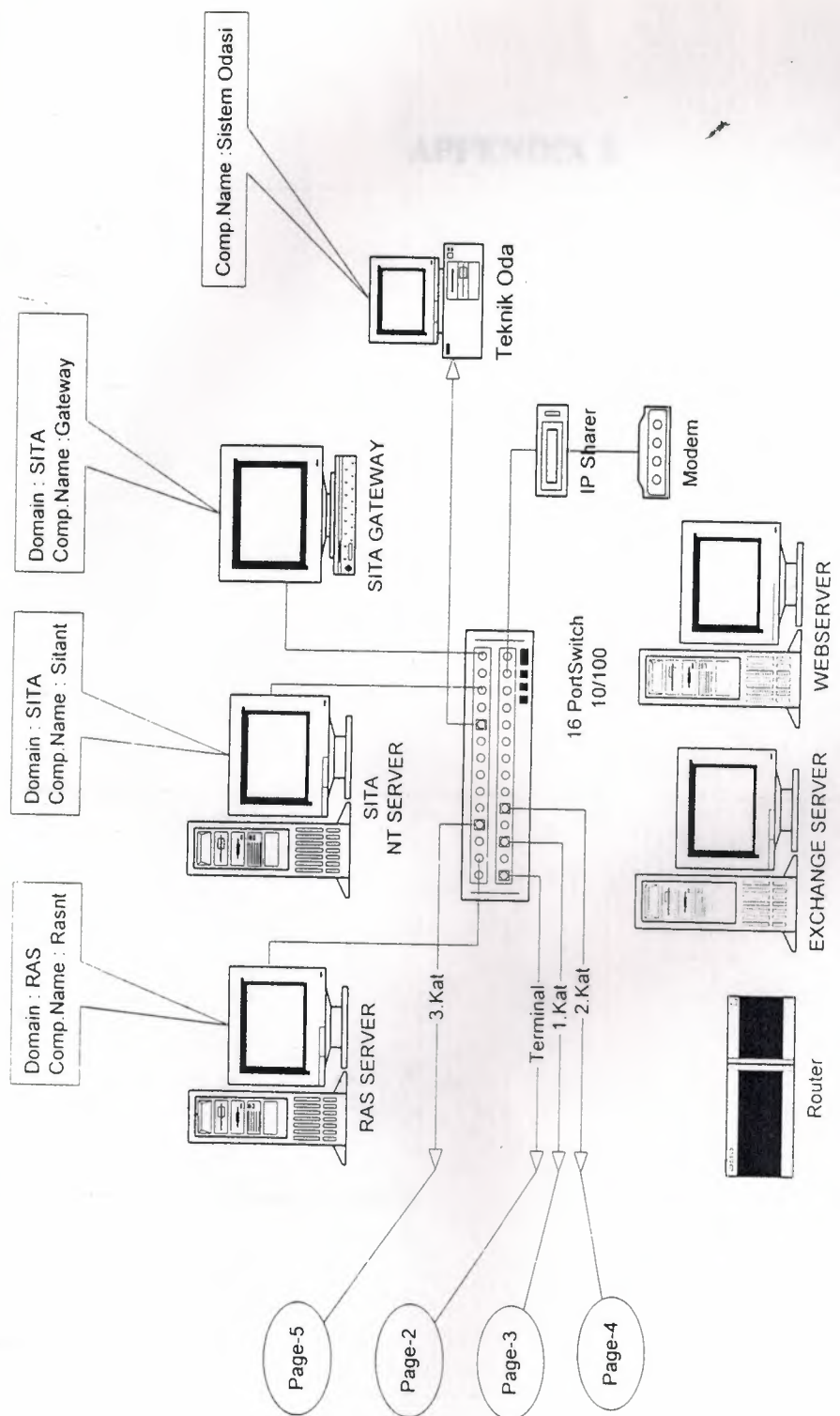
Alsancak Head Office

Adana	Adnan Menderes Airport
	Office in Atatürk Cadd.
Antalya	Şakir Paşa Airport
	Office in 30 Ağustos Cadd. Işıklar
Dalaman	Antalya Airport.
	Lama Shipping Travel Agency.
England	
London	Pall Mall Sales Office.
	Haringway Selling Office
Manchester	Manchester Passenger Services.
Germany	
Frankfurt	Frankfurt Ticketing And Reservation Office.



- Koordinatörlüğe bağlı birimler Teknik ve Mesleki açıdan Satışlar Ticaret, İstasyonlar Yer İşletme ve Muhasebe de Muhasebe ve Mali İşler Müdürlüğü'ne bağlı olarak çalışacaklardır.

NETWORK DIAGRAM



	1995	1996	1997	1998	1999	2000	2001
Uçak yakıt ve yağları	466.931	1.270.232	2.780.867	2.092.963	4.072.368	11.271.078	16.544.851
Yolcu ve Ekip Yiyeceği	75.847	216.707	468.350	324.697	574.635	858.239	2.341.516
Yolcu servis malzemeleri	13.290	27.872	72.279	47.871	77.143	437.304	304.902
Uçucu Per. Ücr.	18.038	48.463	171.586	169.710	1.700.748	4.056.678	7.984.868
Teknisyen Ücr.	9.805	17.690	82.774	87.132	173.464	520.896	1.416.425
İstasyon Per. Ücr.	77.974	178.621	540.548	624.971	-	1.334.130	4.965.117
Kargo Per. Ücr.	-	-	-	-	-	82.683	350.938
İkram Per. Ücr.	-	-	-	-	-	372.765	943.831
Uçak bakım ve Maliyet Ücr.	229.434	739.370	1.610.522	1.655.956	2.534.884	5.511.322	10.211.733
Handling Hiz.	262.020	705.470	1.580.623	1.316.051	2.652.864	4.430.403	7.951.228
Konma konaklama Hiz.	111.306	311.692	623.705	454.367	613.595	1.917.454	3.741.765
Üst geçiş Hiz.	135.556	392.173	1.195.497	984.028	1.605.460	2.318.917	5.338.822
Uçak kiralari	276.730	205.981	1.507.412	86.143	93.345	3.592.112	10.735.432
Yer nakil vasıtaları kiralari	717	799	908	1.544	568	265	4.501
Uçucu Per. Otal,yemek ücr.	19.014	38.933	108.259	35.408	71.535	175.530	316.570

	1995	1996	1997	1998	1999	2000	2001
Per. Eğitim Giderleri	-	-	-	-	-	234.377	348.319
Uçucu Per. Nakil Gid.	6.006	17.306	33.526	29.419	62.129	112.238	154.700
İntikaye uğrayan sefer Gid.	2.776	4.797	12.827	3.336	29.250	26.463	140.528
Uçak ve yolcu Sig.	8.963	124.608	132.845	89.737	130.606	458.728	1.746.447
Yer nakil vas. bakım, maliyet	1.626	4.668	5.503	9.791	12.352	26.421	19.596
Yer nakil Vas. Bak.onarım hız.	986	2.214	5.230	2.556	8.392	10.816	28.961
Diğer bakım onarım hız.	3.819	7.333	9.616	15.618	27.842	11.351	775
Uçak motor taşıt vergileri	-	-	-	-	-	-	23.930
Tesisler, mak. ve cih. Amort.	1.453	3.543	8.589	10.490	61.441	82.467	232.166
Uçak Amort.	95.628	1.028.211	1.652.121	608.050	5.737.524	6.546.141	10.586.158
Taşıt araç ve gereç Amort.	2.642	5.933	9.984	9.847	104.872	133.889	286.093
Diğer işletme Gid.	573	651	2.427	1.685	24.664	27.587	331.518
TOPLAM	1.823.129	5.355.263	12.617.995	8.663.368	20.371.680	44.552.259	87.063.691

	1995	1996	1997	1998	1999	2000	2001
PAZARLAMA VE SATIŞ GİDERLERİ							
Satış Büroları Per. Gid.	-	-	-	-	-	612.704	3.605.128
Bilgisayar ve Tec. Gid.	57.976	15.984	12.774	77.577	160.893	415.717	816.255
Sita Mesaj Gid.	59.350	21.838	10.962	76.252	130.496	229.342	473.180
Kıymetli Form	1.936	4.479	6.672	6.568	29.592	4.109	13.916
Reklam ve Propoganda Gid.	1.747	2.449	719	973	9.919	51.044	81.446
Satış Komisyonları	342.729	158.017	108.851	660.287	1.216.879	2.375.284	3.808.652
Satış Bilg Prog. Gid.	-	-	-	-	-	-	468.287
Diğer Sat. Gid.	2.727	552	470	3.771	5.066	22.682	68.578
TOPLAM	466.465	203.319	140.448	825.428	1.552.845	3.710.882	9.135.442
GENEL YÖNETİM GİDERLERİ							
Personel Ücretleri	360.283	840.988	2.046.612	2.844.116	5.728.915	4.913.622	3.739.719
Yer Nakil Va. Yakıt ve yağ	6.161	10.825	19.199	28.256	51.798	116.533	173.099
Kirtasiye Basılı evrak	5.965	8.874	22.996	20.210	33.307	64.965	174.650

	1995	1996	1997	1998	1999	2000	2001
Yön. Kur. Ve Murakıp Ücr.	391	956	1.039	973	5.910	10.654	13.085
Aydınlatma, ısıtma ve su gid.	3.892	6.497	11.271	20.730	29.758	75.879	122.775
Bina kiralari	11.013	21.355	52.823	90.567	105.614	197.454	313.100
Diğer kiralalar	1.501	3.277	6.286	7.390	16.655	66.420	109.305
Posta, tel, fax gid.	9.380	21.036	37.906	50.836	92.273	165.264	327.937
Mahkeme noter gid.	291	3.103	19.998	38.800	82.795	120.371	633.234
Kitap, gazete ve dergi gid.	1.150	2.427	6.537	9.825	16.891	31.274	45.950
Geçici Gör. Yollukları	4.628	12.911	20.929	43.276	103.769	253.851	390.875
Nakliye Gid.	496	1.388	4.889	1.087	32.781	9.747	28.606

	1995	1996	1997	1998	1999	2000	2001
Per. Eğitim Giderleri	-	-	-	-	-	234.377	348.319
Uçucu Per. Nakil Gid.	6.006	17.306	33.526	29.419	62.129	112.238	154.700
İntikaye uğrayan sefer Gid.	2.776	4.797	12.827	3.336	29.250	26.468	140.528
Uçak ve yolcu Sig.	8.963	124.608	132.845	89.737	130.606	458.728	1.746.447
Yer nakil vas. bakım, maliyet	1.626	4.668	5.503	9.791	12.352	26.421	19.596
Yer nakil Vas. Bak.onarım hız.	986	2.214	5.230	2.556	8.392	10.816	28.961
Diğer bakım onarım hız.	3.819	7.333	9.616	15.618	27.842	11.351	775
Uçak motor taşıt vergileri	-	-	-	-	-	-	23.930
Tesisler, mak. ve cih. Amort.	1.453	3.543	8.589	10.490	61.441	82.467	232.166
Uçak Amort.	95.628	1.028.211	1.652.121	608.050	5.737.524	6.546.141	10.586.158
Taşıt araç ve gereç Amort.	2.642	5.933	9.984	9.847	104.872	133.889	296.093
Diğer İşletme Gid.	573	651	2.427	1.685	24.664	27.587	331.518
TOPLAM	1.823.129	5.355.263	12.617.995	8.663.368	20.371.680	44.552.259	87.063.691

	1995	1996	1997	1998	1999	2000	2001
PAZARLAMA VE SATIŞ GİDERLERİ							
Satış Büroları Per. Gid.	-	-	-	-	-	612.704	3.605.128
Bilgisayar ve Tec. Gid.	57.976	15.984	12.774	77.577	160.893	415.717	616.255
Sita Mesaj Gid.	59.350	21.838	10.962	76.252	130.496	229.342	473.180
Kıymetli Form	1.936	4.479	6.672	6.568	29.592	4.109	13.916
Reklam ve Propoganda Gid.	1.747	2.449	719	973	9.919	51.044	81.446
Satış Komisyonları	342.729	158.017	108.851	660.287	1.216.879	2.375.284	3.808.652
Satış Bilg Prog. Gid.	-	-	-	-	-	-	468.287
Diğer Sat. Gid.	2.727	552	470	3.771	5.066	22.682	68.578
TOPLAM	466.465	203.319	140.448	825.428	1.552.845	3.710.882	9.135.442
GENEL YÖNETİM GİDERLERİ							
Personel Ücretleri	360.283	840.988	2.046.612	2.844.116	5.728.915	4.913.622	3.739.719
Yer Nakil Va. Yakıt ve yağ	6.161	10.825	19.199	28.256	51.798	116.533	173.089
Kırtasiye Basılı evrak	5.965	8.874	22.996	20.210	33.307	64.965	174.650

	1995	1996	1997	1998	1999	2000	2001
Yön. Kur. Ve Murakıp Ücr.	391	956	1.039	973	5.910	10.654	13.085
Aydınlatma, ısıtma ve su gid.	3.892	6.497	11.271	20.730	29.758	75.879	122.775
Bina kiralari	11.013	21.355	52.823	90.567	105.614	197.454	313.100
Diğer kiralari	1.501	3.277	6.286	7.390	16.655	66.420	109.305
Posta, tel, fax gid.	9.380	21.036	37.906	50.836	92.273	165.264	327.937
Mahkeme noter gid.	291	3.103	19.998	38.800	82.795	120.371	633.234
Kitap, gazete ve dergi gid.	1.150	2.427	6.537	9.825	16.891	31.274	45.950
Geçici Gör. Yolluklari	4.628	12.911	20.929	43.276	103.769	253.851	390.875
Nakliye Gid.	496	1.388	4.889	1.087	32.781	9.747	28.608

KIBRIS TURK HAVA YOLLARI
1995 - 2001
İŞLETME GİDERLERİ

	1995	1996	1997	1998	1999	2000	2001
Sponsorluk gid.	-	-	-	-	-	-	37.826
Temsil Gid.	2.684	7.630	9.143	9.292	40.762	54.722	101.901
Hukuk ve Mali Muş. Gid.	-	-	-	-	-	-	74.112
Ortaklık ve Tüz. Kiş. Gid.	14	1.101	49.042	33.993	98.290	136.432	128.798
Banka Mas.	2.814	12.704	28.151	59.302	66.743	83.420	376.667
Yer nakil vas. Sig prim	587	1.473	1.883	2.403	5.099	8.473	28.381
Diğer Sig. Prim.	429	700	2.993	2.359	7.461	42.474	31.955
Gümrük resmi Gid.	1.050	4.153	5.986	1.636	19.518	61.018	72.919
Damga resmi ve harçlar	4.459	18.894	27.603	153.948	39.253	39.753	42.120
Bina ve arazi vergisi	18	284	288	734	229	12.882	41.780
Diğer vergi ve resimler	2.158	5.165	19.203	17.778	21.640	29.414	54.790
Diğer bakım onarım gid.	-	-	-	-	-	-	113.849
Yer üstü düzenleri Amort.	10	10	40	41	564	671	1.423
Binalar Amort.	611	611	3.301	3.302	37.163	44.223	130.488
Demirbaşlır Amort.	816	2.338	4.893	5.284	26.850	35.955	83.472

	1995	1996	1997	1998	1999	2000	2001
Diğ. Maddi Duran var. Amort.	133	682	885	884	12.896	11.396	46.160
Maddi Olmy duran var Amort	-	-	-	-	-	-	20.256
Üyelik Gid.	-	-	-	-	23.343	54.308	92.720
Diğer Yön. Gid.	7.906	19.471	69.818	81.841	14.611	168.216	147.530
Diğer Gid.	-	-	-	-	326.748	2.635	111.387
TOPLAM	434.825	1.014.841	2.479.705	3.534.857	7.047.633	6.882.026	7.816.862

	1995	1996	1997	1998	1999	2000	2001
İDARİ PERSONEL GİDERLERİ							
Personel Ücr.	104.494	199.273	334.693	428.820			
İşçi Ücr.	1.428	436	136.645	236.426			
Mukavelleli Geç. Per. Ücr.	85.334	195.859	391.605	751.286			
İlave Tediyeveler	43.605	88.961	230.230	274.541			
Fazla Mesailer	21.299	44.831	113.047	110.864			
İşten Ayrılma Teminatı	9.148	101.486	374.331	442.008			
Kasa Teminatları	1.047	1.818	3.334	3.111			
Per. yily, giy ve tedavi gid	33.670	74.758	127.988	95.668			
Sos. Sig primleri	53.874	114.677	287.398	416.775			
Eğitim Giderleri	6.384	18.859	47.341	84.617			
TOPLAM	360.283	840.958	2.046.612	2.844.116			

	1995	1996	1997	1998	1999	2000	2001
Uçak yakıt ve yağları	18,9	22,7	22,5	13,1	15,3	22,1	18,9
Yolcu ve Ekip Yiyeceği	3,1	3,9	3,8	2,0	2,2	1,7	2,7
Yolcu servis malzemeleri	0,5	0,5	0,6	0,3	0,3	0,9	0,3
Uçucu Per. Ücr.	0,7	0,9	1,4	1,1	6,4	7,9	9,1
Teknisyen Ücr.	0,4	0,3	0,7	0,5	0,7	1,0	1,6
İstasyon Per. Ücr.	3,2	3,2	4,4	3,9	-	2,6	5,7
Kargo Per. Ücr.	-	-	-	-	-	0,2	0,4
İkram Per. Ücr.	-	-	-	-	-	0,7	1,1
Uçak bakım ve Maliyet Ücr.	9,3	13,2	13,0	10,4	9,5	10,8	11,7
Handling Hiz.	10,8	12,6	12,8	8,2	10,0	8,7	9,1
Konma konaklama Hiz.	4,5	5,6	5,0	2,8	2,3	3,8	4,3
Uçuş geçiş Hiz.	5,5	7,0	9,7	6,2	6,0	4,5	6,1
Uçak kiralari	11,2	3,7	12,2	0,5	0,4	7,0	12,3
Yer nakil vasıtaları kiralari	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Uçucu Per. Otal, yemek ücr.	0,8	0,7	0,9	0,2	0,3	0,3	0,4
Per. Eğitim Giderleri	-	-	-	-	-	0,5	0,4
Uçucu Per. Nakil Gid.	0,2	0,3	0,3	0,2	0,2	0,2	0,2
İntikaye uğrayan sefer Gid.	0,1	0,1	0,1	0,0	0,1	0,1	0,2
Uçak ve yolcu Sig.	0,4	2,2	1,1	0,6	0,5	0,9	2,0
Yer nakil vas. bakım. maliyet	0,1	0,1	0,0	0,1	0,0	0,1	0,0
Yer nakil Vas. Bak.onarım hiz.	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Diğer bakım onarım hiz.	0,2	0,1	0,1	0,1	0,1	0,0	0,0
Uçak motor taşıt vergileri	-	-	-	-	-	-	0,0
Tesisler, mak. ve cih. Amort.	0,1	0,1	0,1	0,1	0,2	0,2	0,3

Source: TRNC

Office of the Companies Registrar and Receiver

KIBRIS TÜRK HAVA YOLLARI
1995-2001
İŞLETME GİDERLERİNİN SATIŞLARA ORANI

	1995	1996	1997	1998	1999	2000	2001
Uçak Amort.	3,9	18,4	13,3	3,8	21,5	12,8	12,1
Taahhüt araç ve gereç Amort.	0,1	0,1	0,1	0,1	0,4	0,3	0,3
Diğer işletme Gid.	0,0	0,0	0,0	0,0	0,1	0,1	0,4
TOPLAM	73,9	95,6	101,9	54,2	76,5	87,2	99,5
PAZARLAMA VE SATIŞ GİDERLERİ							
Satış Büroları Per. Gid.	-	-	-	-	-	-	-
Bilgisayar ve Tec. Gid.	2,4	0,3	0,1	0,5	0,6	0,8	0,7
Sıra Mesaj Gid.	2,4	0,4	0,1	0,5	0,5	0,4	0,5
Kıymetli Form	0,1	0,1	0,1	0,0	0,1	0,0	0,0
Reklam ve Propaganda Gid.	0,1	0,0	0,0	0,0	0,0	0,1	0,1
Satış Komisyonları	13,9	2,8	0,9	4,1	4,6	4,6	4,4
Satış Bilgi Prog. Gid.	-	-	-	-	-	-	-
Diğer Sat. Gid.	0,1	0,0	0,0	0,0	0,0	0,0	0,1
TOPLAM	18,9	3,6	1,1	5,2	5,8	7,3	10,4
GENEL YÖNETİM GİDERLERİ							
Personel Ücretleri	14,6	15,0	16,5	17,8	21,5	9,6	4,3
Yer Nakil Va. Yakıt ve Yağ	0,2	0,2	0,2	0,2	0,2	0,2	0,2
Kırtasiye Basılı evrak	0,2	0,2	0,2	0,1	0,1	0,1	0,2
Yön. Kur. Ve Murakıp Ücr.	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Aydınlatma, ısıtma ve su gid.	0,2	0,1	0,1	0,1	0,1	0,1	0,1
Bina kiralrı	0,4	0,4	0,4	0,6	0,4	0,4	0,4
Diğer kiralr	0,1	0,1	0,1	0,0	0,1	0,1	0,1

İŞLETME GİDERLERİNİN SATIŞALARA ORANI

	1995	1996	1997	1998	1999	2000	2001
Posta, tel, fax gid.	/ Satışlar X 100	0,4	0,3	0,3	0,3	0,3	0,4
Mahkeme noter gid.	/ Satışlar X 100	0,0	0,2	0,2	0,3	0,2	0,7
Kitap, gazete ve dergi gid.	/ Satışlar X 100	0,0	0,1	0,1	0,1	0,1	0,1
Geçici Gör. Yollukları	/ Satışlar X 100	0,2	0,2	0,3	0,4	0,5	0,4
Nakliye Gid.	/ Satışlar X 100	0,0	0,0	0,0	0,1	0,0	0,0
Sponsorluk gid.	/ Satışlar X 100	-	-	-	-	-	0,0
Temsil Gid.	/ Satışlar X 100	0,1	0,1	0,1	0,2	0,1	0,1
Hukuk ve Mali Müş. Gid.	/ Satışlar X 100	-	-	-	-	-	0,1
Ortaklık ve Tüz. Kış. Gid.	/ Satışlar X 100	0,0	0,4	0,2	0,4	0,3	0,1
Banka Mas.	/ Satışlar X 100	0,1	0,2	0,4	0,3	0,2	0,4
Yer nakil yas. Sig prim	/ Satışlar X 100	0,0	0,0	0,0	0,0	0,0	0,0
Diğer Sig. Prim.	/ Satışlar X 100	0,0	0,0	0,0	0,0	0,1	0,0
Gümrük resmi Gid.	/ Satışlar X 100	0,0	0,0	0,0	0,1	0,1	0,1
Damga resmi ve harçlar	/ Satışlar X 100	0,2	0,2	1,0	0,1	0,1	0,0
Bina ve arazi vergisi	/ Satışlar X 100	0,0	0,0	0,0	0,0	0,0	0,0
Diğer vergi ve resimler	/ Satışlar X 100	0,1	0,2	0,1	0,1	0,1	0,1
Diğer bakım onarım gid.	/ Satışlar X 100	-	-	-	-	-	0,1
Yer üstü düzenleri Amort.	/ Satışlar X 100	0,0	0,0	0,0	0,0	0,0	0,0
Binalar Amort.	/ Satışlar X 100	0,0	0,0	0,0	0,1	0,1	0,1
Demirbaşlar Amort.	/ Satışlar X 100	0,0	0,0	0,0	0,1	0,1	0,1
Diğ. Maddi Duran var. Amort.	/ Satışlar X 100	0,0	0,0	0,0	0,0	0,0	0,1
Maddi Olmıy duran var Amort	/ Satışlar X 100	-	-	-	-	-	0,0
Üyelik Gid.	/ Satışlar X 100	-	-	-	0,1	0,1	0,1

	1995	1996	1997	1998	1999	2000	2001
Diğer Yön. Gid.	0,3	0,3	0,6	0,5	0,1	0,3	0,2
Diğer Gid.	-	-	-	0,0	1,2	0,0	0,1
TOPLAM	17,6	18,1	20,0	22,1	26,5	13,5	8,9
İDARİ PERSONEL GİDERLERİ							
Personel Ücr.	4,2	3,6	2,7	2,7			
İşçi Ücr.	0,1	0,0	1,1	1,5			
Mukavelleli Geç. Per. Ücr.	3,5	3,5	3,2	4,7			
İlave Tediyelet	1,8	1,6	1,9	1,7			
Fazla Mesailer	0,9	0,8	0,9	0,7			
İşten Ayrılma Teminatı	0,4	1,8	3,0	2,8			
Kasa Teminatları	0,0	0,0	0,0	0,0			
Per. y/y, g/y ve tedavi gid	1,4	1,3	1,0	0,6			
Sos. Sig primleri	2,2	2,0	2,3	2,6			
Eğitim Giderleri	0,3	0,3	0,4	0,5			
TOPLAM	14,6	15,0	16,5	17,8			

APPENDIX C

31 ARALIK 2001 GÜNÜ SAAT 15:30'DA BELİRLENEN GÖSTERGE NİTELİĞİNDEKİ

TÜRKİYE CUMHURİYET MERKEZ BANKASI KURLARI

DÖVİZ KODU	DÖVİZ ALIŞ EXCHANGE	DÖVİZ SATIŞ RATES	EFEKTİF ALIŞ EXC.RT.ON.	EFEKTİF SATIŞ BANKNOTES	ÇAPRAZ KUR CROSS	PAR
Code	Buying	Selling	Buying	Selling	Rate	Par
USD ABD DOLARI	1,446,638	1,453,615	1,445,625	1,455,795	1.0	1
CAD KANADA DOLARI	908,795	912,903	905,432	916,372	1.5923	
SDR ÖZEL ÇEKME HAKKI (SDR)	1,827,630	NA	NA	NA	NA	1.
ATS AVUSTURYA ŞİLİNİ	93,115	93,564	92,975	93,704	NA	
BEF BELÇİKA FRANGI	31,762	31,915	31,714	31,963	NA	
DKK DANİMARKA KRONU	172,367	173,216	172,246	173,614	8.3919	
DEM ALMAN MARKI	655,111	658,271	654,652	659,258	NA	
FRF FRANSIZ FRANGI	195,331	196,273	195,038	196,567	NA	
NLG HOLLANDA FLORİNİ	581,423	584,227	580,551	585,103	NA	
IEP İRLANDA LİRASI	1,626,899	1,634,746	1,617,138	1,644,554	NA	
SEK İSVEC KRONU	137,590	139,022	137,494	139,342	10.4560	
CHF İSVİCRE FRANGI	864,185	869,751	862,889	871,056	1.6713	
ITL 100 İTALYAN LİRETİ	66,173	66,492	65,974	66,745	NA	
LUF LÜKSEMBURG FRANGI	31,762	31,915	31,524	32,154	NA	
NOK NORVEÇ KRONU	160,530	161,613	160,418	161,985	8.9944	
JPY JAPON YENİ	11,009	11,082	10,968	11,124	131.1700	
SAR SUUDİ ARABİSTAN RİYALİ	386,881	387,579	383,979	390,486	3.7505	
KWD KUVEYT DİNARI	4,671,826	4,733,360	4,601,749	4,804,360	NA	3
AUD AVUSTRALYA DOLARI	737,681	742,507	734,288	746,962	1.9577	
EUR EURO (*)	1,281,287	1,287,467	1,280,390	1,289,398	NA	0
GBP İNGİLİZ STERLİNİ	2,099,963	2,110,940	2,098,493	2,114,106	NA	1
FIM FİN MARKKASI	215,497	216,536	215,346	217,034	NA	
ESP İSPANYOL PEZETASI	7,701	7,738	7,684	7,756	NA	
PTE PORTEKİZ ESKUDOSU	6,391	6,422	6,343	6,470	NA	
IRR İRAN RİYALİ	NA	NA	257	386	NA	
GRD YUNAN DRAHMİSİ	3,760	3,778	3,732	3,806	NA	
FYP SURIYE LİRASI	NA	NA	15,877	23,816	NA	
JOD ÜRDÜN DİNARI	NA	NA	1,703,343	1,920,791	NA	
BGL BULGAR LEVASI	NA	NA	385,504	578,892	NA	
ROL ROMEN LEYİ	NA	NA	48	72	NA	
ILS YENİ İSRİL ŞEKELİ	NA	NA	307,081	322,828	NA	

(*) EURO 1 OCAK 2002 TARİHİNDEN İTİBAREN EFEKTİF OLARAK TEDAVÜLE ÇIKACAKTIR.

25 ARALIK 2000 GÜNÜ SAAT 15:30'DA BELİRLENEN GÖSTERGE NİTELİĞİNDEKİ

TÜRKİYE CUMHURİYET MERKEZ BANKASI KURLARI

DÖVİZ KODU	DÖVİZ ALİŞ	DÖVİZ SATIŞ	EFEKTİF ALİŞ	EFEKTİF SATIŞ	ÇAPRAZ KUR	PAR
Code	EXCHANGE Buying	RATES Selling	EXC.RT.ON. Buying	BANKNOTES Selling	CROSS Rate	Par
USD ABD DOLARI	671,765	675,004	671,295	676,017	1.0	1
CAD KANADA DOLARI	442,432	444,432	440,795	446,121	1.5188	
SDR ÖZEL ÇEKME HAKKI (SDR)	879,260	NA	NA	NA	NA	1
ATS AVUSTURYA ŞİLİNİ	44,952	45,169	44,885	45,237	NA	
BEF BELÇİKA FRANGI	15,334	15,408	15,311	15,431	NA	
DKK DANİMARKA KRONU	83,316	83,726	83,258	83,919	8.0621	
DEM ALMAN MARKI	316,265	317,790	316,044	318,171	NA	
FRF FRANSIZ FRANGI	94,299	94,754	94,158	94,896	NA	
NLG HOLLANDA FLORİNİ	280,690	282,044	280,269	282,467	NA	
IEP İRLANDA LİRASI	785,410	789,198	780,698	793,933	NA	
SEK İSVEC KRONU	69,766	70,492	69,717	70,654	9.5756	
CHF İSVİCRE FRANGI	407,884	410,511	407,272	411,127	1.6443	
ITL 100 İTALYAN LİRETİ	31,946	32,100	31,850	32,222	NA	
LUF LÜKSEMBURG FRANGI	15,334	15,408	15,219	15,524	NA	
NOK NORVEÇ KRONU	75,808	76,319	75,755	76,495	8.8445	
JPY JAPON YENİ	5,942	5,981	5,920	6,004	112.8500	
SAR SUUDİ ARABİSTAN RİYALİ	179,653	179,977	178,306	181,327	3.7505	
KWD KUVEYT DİNARI	2,181,282	2,210,012	2,148,563	2,243,162	NA	3
AUD AVUSTRALYA DOLARI	373,399	375,842	371,681	378,097	1.7960	
EUR EURO	618,561	621,544	NA	NA	NA	0
GBP İNGİLİZ STERLİNİ	993,878	999,073	993,182	1,000,572	NA	1
FIM FİN MARKKASI	104,034	104,536	103,961	104,776	NA	
ESP İSPANYOL PEZETASI	3,718	3,736	3,710	3,745	NA	
PTE PORTEKİZ ESKUDOSU	3,085	3,100	3,062	3,123	NA	
IRR İRAN RİYALİ	NA	NA	119	183	NA	
GRD YUNAN DRAHMİSİ	NA	NA	1,693	1,769	NA	
FYP SURIYE LİRASI	NA	NA	6,028	9,041	NA	
JOD ÜRDÜN DİNARI	NA	NA	842,238	949,758	NA	
BGL BULGAR LEVASI	NA	NA	153,440	241,500	NA	
ROL ROMEN LEYİ	NA	NA	22	34	NA	
ILS YENİ İSRAIL ŞEKELİ	NA	NA	142,952	150,283	NA	

30 ARALIK 1999 GÜNÜ SAAT 15:00'DE BELİRLENEN GÖSTERGE NİTELİĞİNDEKİ

TÜRKİYE CUMHURİYET MERKEZ BANKASI KURLARI

DÖVİZ KODU	DÖVİZ ALİŞ	DÖVİZ SATIŞ	EFEKTİF ALİŞ	EFEKTİF SATIŞ	ÇAPRAZ KUR	PAR
Code	EXCHANGE	RATES	EXC. RT. ON.	BANKNOTES	CROSS	Par
Buying	Selling	Buying	Selling	Rate	Par	
USD ABD DOLARI	540,098	542,703	539,720	543,517	1.0	1
CAD KANADA DOLARI	371,645	373,325	370,270	374,744	1.4537	
SDR ÖZEL ÇEKME HAKKI (SDR)	744,100	NA	NA	NA	NA	1
ATS AVUSTURYA ŞİLİNİ	39,396	39,586	39,337	39,645	NA	
BEF BELÇİKA FRANGI	13,438	13,503	13,418	13,523	NA	
DKK DANİMARKA KRONU	72,886	73,245	72,835	73,413	7.4094	
DEM ALMAN MARKI	277,169	278,506	276,975	278,840	NA	
FRF FRANSIZ FRANGI	82,642	83,041	82,518	83,166	NA	
NLG HOLLANDA FLORİNİ	245,993	247,179	245,624	247,550	NA	
IEP İRLANDA LİRASI	688,320	691,640	684,190	695,790	NA	
SEK İSVEC KRONU	62,991	63,647	62,947	63,793	8.5268	
CHF İSVİCRE FRANGI	337,292	339,465	336,786	339,974	1.5987	
ITL 100 İTALYAN LİRETİ	27,997	28,132	27,913	28,239	NA	
LUF LÜKSEMBURG FRANGI	13,438	13,503	13,337	13,604	NA	
NOK NORVEÇ KRONU	67,190	67,643	67,143	67,799	8.0230	
JPY JAPON YENİ	5,274	5,309	5,254	5,329	102.2200	
SAR SUUDİ ARABİSTAN RİYALİ	144,449	144,709	143,366	145,794	3.7503	
KWD KUVEYT DİNARI	1,760,436	1,783,623	1,734,029	1,810,377	NA	3
AUD AVUSTRALYA DOLARI	351,273	353,571	349,657	355,692	1.5349	
EUR EURO	542,096	544,711	NA	NA	NA	1
GBP İNGİLİZ STERLİNİ	872,501	877,062	871,890	878,378	NA	1
FIM FİN MARKKASI	91,174	91,614	91,110	91,825	NA	
ESP İSPANYOL PEZETASI	3,258	3,274	3,251	3,282	NA	
PTE PORTEKİZ ESKUDOSU	2,704	2,717	2,684	2,737	NA	
IRR İRAN RİYALİ	NA	NA	96	144	NA	
GRD YUNAN DRAHMİSİ	NA	NA	1,500	1,647	NA	
FYP SURIYE LİRASI	NA	NA	4,580	6,870	NA	
JOD ÜRDÜN DİNARI	NA	NA	633,158	713,986	NA	
BGL BULGAR LEVASI	NA	NA	123	185	NA	
ROL ROMEN LEYİ	NA	NA	17	26	NA	
ILS YENİ İSRAİL ŞEKELİ	NA	NA	105,077	110,466	NA	

31 ARALIK 1998 GÜNÜ SAAT 15:00'DE BELİRLLENEN GÖSTERGE NİTELİĞİNDEKİ

TÜRKİYE CUMHURİYET MERKEZ BANKASI KURLARI

DÖVİZ KODU	DÖVİZ ALİŞ EXCHANGE	DÖVİZ SATIŞ RATES	EFEKTİF ALİŞ EXC. RT. ON.	EFEKTİF SATIŞ BANKNOTES	ÇAPRAZ KUR CROSS	PAR
Code	Buying	Selling	Buying	Selling	Rate	Par
USD ABD DOLARI	313,707	315,220	313,487	315,693	1.0	1.0
CAD KANADA DOLARI	202,675	203,591	201,925	204,365	1.5483	
SDR ÖZEL ÇEKME HAKKI (SDR)	443,357	NA	NA	NA	NA	1.4
ATS AVUSTURYA ŞİLİNİ	26,612	26,740	26,572	26,780	NA	
BEF BELÇİKA FRANGI	9,077	9,121	9,063	9,135	NA	
DKK DANİMARKA KRONU	49,239	49,481	49,205	49,595	6.3705	
DEM ALMAN MARKI	187,230	188,133	187,099	188,359	NA	
FRF FRANSIZ FRANGI	55,826	56,095	55,742	56,179	NA	
NLG HOLLANDA FLORİNİ	166,170	166,971	165,921	167,221	NA	
IEP İRLANDA LİRASI	464,965	467,208	462,175	470,011	NA	
SEK İSVEC KRONU	38,443	38,843	38,416	38,932	8.1153	
CHF İSVİCRE FRANGI	226,696	228,156	226,356	228,498	1.3816	
ITL 100 İTALYAN LİRETİ	18,912	19,003	18,855	19,075	NA	
LUF LÜKSEMBURG FRANGI	9,077	9,121	9,009	9,189	NA	
NOK NORVEÇ KRONU	41,097	41,374	41,068	41,469	7.6188	
JPY JAPON YENİ	2,752	2,770	2,742	2,781	113.8000	
SAR SUUDİ ARABİSTAN RİYALİ	83,885	84,036	83,256	84,666	3.7510	
KWD KUVEYT DİNARI	1,031,401	1,044,986	1,015,930	1,060,661	NA	3.3
AUD AVUSTRALYA DOLARI	192,130	193,387	191,246	194,547	1.6300	
EUR EURO	366,190	367,956	NA	NA	NA	1.1
GBP İNGİLİZ STERLİNİ	521,641	524,368	521,276	525,155	NA	1.6
FIM FİN MARKKASI	61,589	61,886	61,546	62,028	NA	
ESP İSPANYOL PEZETASI	2,200	2,211	2,195	2,216	NA	
PTE PORTEKİZ ESKUDOSU	1,826	1,835	1,812	1,849	NA	
IRR İRAN RİYALİ	NA	NA	56	84	NA	
GRD YUNAN DRAHMİSİ	NA	NA	1,066	1,109	NA	
FYP SURİYE LİRASI	NA	NA	3,169	4,753	NA	
JOD ÜRDÜN DİNARI	NA	NA	395,761	446,283	NA	
BGL BULGAR LEVASI	NA	NA	71	107	NA	
ROL ROMEN LEYİ	NA	NA	25	38	NA	
ILS YENİ İSRAİL ŞEKELİ	NA	NA	70,623	74,245	NA	

31 ARALIK 1997 GÜNÜ SAAT 15:00 DE BELİRLENEN GÖSTERGE NİTELİĞİNDEKİ

TÜRKİYE CUMHURİYET MERKEZ BANKASI KURLARI

DÖVİZ KODU	DÖVİZ ALİŞ	DÖVİZ SATIŞ	EFEKTİF ALİŞ	EFEKTİF SATIŞ	ÇAPRAZ KUR	PAR
Code	EXCHANGE Buying	RATES Selling	EXC. RT. ON. Buying	BANKNOTES Selling	CROSS Rate	Par
USD ABD DOLARI	205,110	206,100	204,860	206,620	1.0	1.0
CAD KANADA DOLARI	143,170	143,820	142,280	144,730	1.4330	
SDR ÖZEL ÇEKME HAKKI (SDR)	278,010	NA	NA	NA	NA	1.3
ATS AVUSTURYA ŞİLİNİ	16,275	16,339	16,234	16,380	12.614	
BEF BELÇİKA FRANGI	5,541	5,576	5,527	5,590	36.961	
DKK DANI MARKA KRONU	30,030	30,178	29,919	30,293	6.8294	
DEM ALMAN MARKI	114,440	114,990	114,300	115,220	1.7924	
FRF FRANSIZ FRANGI	34,164	34,360	34,079	34,446	5.9982	
NLG HOLLANDA FLORİNİ	101,370	101,990	101,120	102,240	2.0207	
IEP İRLANDA LİRASI	293,290	294,760	290,360	297,710	NA	1.4
SEK İSVEC KRONU	25,778	26,046	25,683	26,145	7.9130	
CHF İSVİCRE FRANGI	140,690	141,600	140,340	141,950	1.4555	
ITL 100 İTALYAN LİRETİ	11,572	11,700	11,514	11,774	1761.50	
LUF LÜKSEMBURG FRANGI	5,541	5,576	5,472	5,646	36.9610	
NOK NORVEÇ KRONU	27,812	28,000	27,709	28,106	7.3608	
JPY JAPON YENİ	1,572	1,582	1,562	1,592	130.25	
SAR SUUDİ ARABİSTAN RİYALİ	54,854	54,953	54,168	55,640	3.7505	
KWD KUVEYT DİNARI	666,960	675,740	650,420	692,770	NA	3.2
AUD AVUSTRALYA DOLARI	133,740	134,620	132,710	135,970	1.5309	
ECU AVRUPA PARA BİRİMİ (ECU)	225,180	227,180	NA	NA	NA	1.1
GBP İNGİLİZ STERLİNİ	339,120	340,890	338,710	341,740	NA	1.6
FIM FİN MARKKASI	37,377	37,946	37,239	38,090	5.4314	
ESP İSPANYOL PEZETASI	1,346	1,358	1,341	1,363	151.73	
PTE PORTEKİZ ESKUDOSU	1,115	1,125	1,101	1,139	183.25	
IRR İRAN RİYALİ	NA	NA	36	55	NA	
GRD YUNAN DRAHMİSİ	NA	NA	703	728	NA	
FYP SURİYE LİRASI	NA	NA	2,245	3,368	NA	
JOD ÜRDÜN DİNARI	NA	NA	250,650	282,640	NA	
BGL BULGAR LEVASI	NA	NA	47	70	NA	
ROL ROMEN LEYİ	NA	NA	16	25	NA	
ILS YENİ İSRAİL ŞEKELİ	NA	NA	54,048	56,820	NA	

30 ARALIK 1996 GÜNÜ SAAT 15:00 DE BELİRLENEN GÖSTERGE NİTELİĞİNDEKİ

TÜRKİYE CUMHURİYET MERKEZ BANKASI KURLARI

DÖVİZ KODU	DÖVİZ ALIŞ	DÖVİZ SATIŞ	EFEKTİF ALIŞ	EFEKTİF SATIŞ	ÇAPRAZ KUR	PAR
USD ABD DOLARI	107,505	108,045	107,182	108,369	1.0	1.0
CAD KANADA DOLARI	78,591	78,986	77,805	79,223	1.3679	
SDR ÖZEL ÇEKME HAKKI (SDR)	155,077	NC	NC	NC	NC	1.4
ATS AVUSTURYA ŞİLİNİ	9,819	9,868	9,770	9,898	10.9490	
BEF BELÇİKA FRANGI	3,354	3,371	3,337	3,381	32.0500	
DKK DANI MARKA KRONU	18,062	18,153	17,972	18,207	5.9520	
DEM ALMAN MARKI	69,073	69,420	68,866	69,628	1.5564	
FRF FRANSIZ FRANGI	20,481	20,584	20,420	20,646	5.2490	
NLG HOLLANDA FLORİNİ	61,555	61,864	60,939	62,050	1.7465	
IEP İRLANDA LİRASI	NC	NC	172,584	180,988	NC	
SEK İSVEC KRONU	15,655	15,734	15,577	15,781	6.8668	
CHF İSVİCRE FRANGI	79,503	79,903	79,264	80,143	1.3522	
ITL 100 İTALYAN LİRETİ	7,034	7,069	6,964	7,090	1528.40	
LUF LÜKSEMBURG FRANGI	NC	NC	3,214	3,382	NC	
NOK NORVEÇ KRONU	16,661	16,745	16,578	16,795	6.4525	
JPY JAPON YENİ	923	932	902	945	115.95	
SAR SUUDİ ARABİSTAN RİYALİ	28,668	28,812	28,238	28,898	3.7500	
KWD KUVEYT DİNARI	358,588	360,390	351,416	361,471	NC	3.3
AUD AVUSTRALYA DOLARI	85,692	86,123	84,407	86,381	1.2545	
ECU AVRUPA PARA BİRİMİ (ECU)	133,188	133,857	NC	NC	NC	1.2
GBP İNGİLİZ STERLİNİ	181,533	182,445	180,988	182,992	NC	1.6
FIM FİN MARKKASI	23,124	23,240	22,893	23,310	4.6490	
ESP İSPANYOL PEZETASI	812	824	792	838	131.11	
PTE PORTEKİZ ESKUDOSU	NC	NC	650	690	NC	
IRR İRAN RİYALİ	NC	NC	8	13	NC	
GRD YUNAN DRAHMİSİ	NC	NC	414	433	NC	
FYP SURİYE LİRASI	NC	NC	1,506	1,617	NC	
JOD ÜRDÜN DİNARI	NC	NC	119,847	138,490	NC	
BGL BULGAR LEVASI	NC	NC	132	142	NC	
ROL ROMEN LEYİ	NC	NC	5	16	NC	
ILS YENİ İSRİL ŞEKELİ	NC	NC	27,822	32,149	NC	

APPENDIX D

as vacations, tends to be more price sensitive. In recent years, corporate travel budgets have also become price sensitive. High fares stifle air traffic demand, while low fares spur greater demand.

The federal government has not regulated airlines since deregulation in 1978. Since deregulation, the industry has grown significantly more concentrated. Since 1985, mergers played a significant role in this concentration. Between 1986 and 1987, Texas Air merged with Eastern and People's Express, Northwest Airlines with Republic Airlines, and Delta with Western. Industry consolidation has resulted from slowing traffic growth and the exhaustion of conventional cost-cutting measures. Mergers offer savings opportunities through the consolidation of administrative, distribution, and maintenance operations. Bankruptcies in the 1990s, most notably Pan American and Eastern, have also led to the consolidation of the industry.

All major airlines with the exception of Southwest operate through hub-and-spoke networks. In a hub system, passengers are gathered from surrounding "spoke" cities to a central hub airport where they must transfer to the second leg of their flight. This enables densities to be built for the longer portion of the flight, better matching equipment to demand. Competitive challenges are rare once an airline is established in a hub. This has led to the stabilization of airfares and profit margins.

Despite deregulation, the Federal Aviation Administration (FAA) still imposes safety standards on carriers. It certifies aircraft and airlines and establishes age and medical requirements for pilots. A series of tragic airplane crashes in 1996 pushed air safety to the forefront. The crash of a ValuJet airplane in the Florida Everglades in May was followed in July by the mysterious explosion and crash of TWA's Flight 800 over the Atlantic Ocean. The ValuJet crash prodded regulators to tighten their scrutiny of start-up airlines and the practices of maintenance contractors. Certification of a new airline now takes twice as long as before. The number of aircraft that a new airline can operate is also limited based on the carrier's financial and managerial resources.

The Department of Transportation (DOT) levies civil penalties against airlines that engage in fraudulent marketing practices and violate code-sharing rules. It also decides airline ownership and control issues. Internationally, the DOT plays an important role by negotiating bilateral aviation treaties with foreign nations.

FINANCIAL ANALYSIS

From 1994 to 1996, the growth rate in the airline industry averaged 6.7 percent each year. In 1997, the growth rate averaged 7.1 percent per year, with an average load

factor of just over 70.6 percent. Compared to other transportation industries, this rate is high, due to the fact that regional and international airlines continue to increase their service to underserved destinations.

The airline industry includes high barriers to entry. It requires a huge capital investment, not only for purchasing aircraft but also for labor, gate fees, advertising, fuel, etc. Nonetheless, the airline industry is easier to enter now than it was before 1978 when deregulation was passed. Flight equipment accounts for more than 62 percent of total airline assets.

A newer trend for start-ups, as well as major carriers, is to lease rather than buy planes. If aircraft are purchased, tax implications occur such as charges for depreciation and financing costs such as interest or preferred dividend payments. Among major airlines, depreciation averages 4.7 percent. For Southwest Airlines, depreciation increased 4.9 percent compared to an increase in the percentage of owned aircraft.

An important measure is yield, or the revenue generated per passenger mile (RPM). Comparing the absolute yield level for different carriers is only useful if the carriers have a similar mix of flights. Another consideration is revenues from nonfare sources. Since these can account for as much as 10 percent of an airline's total revenues, this contribution can make the difference between an operating profit and loss.

Industry revenues are strongly linked to corporate earnings and disposable income. The second and third quarters, along with holidays, have commonly been the times when demand was highest and operating conditions most favorable. From 1990 to mid-1994, the industry suffered \$12 billion in losses. In the third quarter of 1995, the airline industry reported record profits of nearly \$2.4 billion. Total operating revenues increased by 3.6 percent while total operating expenses increased by 3.3 percent. At the same time, passenger revenues increased by 6.2 percent along with freight and express revenues, which increased by 16.4 percent. The rate of return on investment rose by 6.8 percent. As a result of these factors, the operating profit margin increased by 3.1 percent along with the net profit margin, which increased by 2.9 percent.

The outlook is even more promising for the worldwide airline industry as a whole (Table 5.1). The profits for 1995 reached a net figure of \$5.2 billion dollars, based on international service revenues of \$129.6 billion. Net profit of 4 percent of revenue set an all-time record for the industry. International revenues for 1996 reached \$140 billion, resulting in a \$6.0 billion net profit or 4.3 percent of revenue. With the airline industry's new profitability, and provided that the airlines continue to focus their efforts on the balance sheets, this industry will become a very attractive investment in the next century.