TRAVEL AGENCY PRODUCTIVITY AND THEIR
USE OF TECHNOLOGY

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To my three best friends..

Mummy, Vishu and Paul.

ABSTRACT

The main aims of the research were to measure the productivity, examine a range of functional patterns, infer on the determinants of labour productivity and the factors that effect its improvement, focusing on any impact from technology, in UK travel agencies.

Labour Productivity was defined as value added per head. The travel agent was chosen as the unit of study for various reasons including the paucity of data on agency behaviour, and recent industry trends heralding a change in the agent's very nature and role. These trends included the increasing competitiveness of principals' reservation systems and its impact on travel retailing.

A series of contentions were identified from extensive data searches. These were formulated into seventeen research hypotheses within the framework of which, the nature, behaviour and productivity of travel agents could be examined. Suitable statistical methods were chosen and a sample survey was designed, for the purpose of collecting the relevant data.

The empirical evidence collected from the respondents (numbering 494) revealed important facts about agency behaviour. A region of particular interest was the capacity the agents had to influence a customer's choice to buy particular products. Other salient points were the invisible bias forced on agents by technology and the variances between business and leisure agents. These areas were investigated further by time and motion studies, undertaken in collaboration with Air Research Ltd.

The main research findings indicated that travel agents only sold the standard products. They did not exercise their influence to translate client enquiries into bookings with chosen principals. Systems penetration was mainly in the front-office, but findings revealed that agents did not fully exploit the applications of the systems installed. The introduction of systems was however considered a necessity by most agents. Agents did realise that preferential selling would have to be practised to obtain override, and this challenges the premise that travel agents are neutral.

Travel agency profitability and turnover figures were relatively low. Staff had minimal educational qualifications, high supervision needs and staff productivity was relatively low. A series of productivity determinants were assessed with the sample placing a very high emphasis on agency location, reputation, managerial abilities, staff expertise, familiarity and liaison with principals. The productivity analysis from the research data picked out age of the company, staff age, training, education, experience, systems installed and applications usage levels, agent/VDU ratio, ratio of supervision, focus of business and principals support level, as factors that contributed to productivity.

The future of travel agents seems to be tied closely to the use of automation and diversifying into new product lines to cope with competition. Agents might also become obliged to review their impartial role towards their customers and start to do preferential selling to address profitability, productivity and even survival issues. In the event of agents not pleasing the principals they represent there is the danger of direct sell and alternate retailing forms usurping travel agency market share, challenging their position in the travel industry marketplace, and eventually even leading to their extinction.

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CHAPTER 1 INTRODUCTION

1.1 BACKGROUND TO THE STUDY

This study aims to measure productivity in the context of a travel agent, to examine a range of functional patterns, behaviour and characteristics, and to explain factors that influence productivity, with an accent on the usage and impact of computer systems. The travel agent is fundamentally a ´retailer´, liaising with the manufacturers (or travel principals: airlines, hotels etc) to serve the needs of the public at large. The choice of the travel agent as the unit of study, as well as the origins of interest and relevance of the research topic are outlined next.

My own work experience in varied travel sectors - retail travel, an Airline GSA, a Regional Tourist office, a small independent tour operator and an international airline - prompted an interest in the role and functioning of the travel agent, in the overall scheme of the travel industry. Travel agents perform a dual role, with loyalties and responsibilities to both the principals represented, and the clients **served**. Traditionally, travel agents were sought for their unbiased advice, in presenting and selling the products of different principals with only their client´s interests in mind. This ´virtue´ of objectivity was being challenged by new technology and principals providing override commission, alongside travel agents increasingly functioning with dire profit margins. Principals felt that the travel agent had the capability to influence only 10-20% of customer´s decisions in product choice. There was no concrete evidence on either of these contentions relating to the role of a travel agent, and it was of great interest to discover to what extent agent´s advice was sought by clients, and in turn, to what

extent agents could influence customer decisions.

In general, travel agents were considered to be unproductive and without initiative. While earlier surveys had attempted to study agency profitability, to the best of the researchers' knowledge no data existed on the productivity of agents as related to various contributory factors, like technology, the type of agency (e.g. multiple/ independent), age and location, product mix, etc. It was of interest to investigate the productivity of travel agents, and to examine its determinants, or the various factors that were thought to contribute to agency productivity.

The tourist product, with its various component elements, often originating from different travel principals, seemed ideally suited to benefit from new technology. Several opinions exist on the impacts of the systems - both negative and positive - on these retailers of travel. For instance while some see technology as improving productivity, quality of the service, speed and efficiency of information retrieval, others warn that travel agents might find they are made obsolete from the introduction and increasing use of the systems. The constant enhancements to the technology, and the heightened competition among CRS and viewdata companies, was chiefly to seek penetration of their systems into travel agents, and so dominate market share.

The major bulk of travel products are still sold via retail travel agents. However, alternate retailing forms were capturing a section of market. The threat of direct sell, more in-house travel units, in-store travel shops, alternate **retailing** forms, and the use of the systems as a direct distribution channel to customers, were all areas of worry to the travel retail sector.

The various topics discussed briefly above were regions that were chosen for further research. The paucity of data available on the travel agent meant that much of the information needed to shed

light on the contentions raised above, had to be incepted by this research itself. The main aims, and the related hypotheses investigated upon, are detailed next, followed by details of the stages of data collection, analysis and inference.

1.2 MAIN RESEARCH AIMS

The main research aims are summarised below :-

(1) To obtain an overall picture of travel agency productivity, nature, role, behaviour and functioning.

(2) To measure the labour productivity of UK travel agents and to identify and assess its contributory factors.

(3) To get a clear idea of the penetration, use, impact, attitude, present and future implications of travel systems.

These were researched upon and seventeen hypotheses were drawn up, providing a framework to investigate the primary aims above.

1.3 OUTLINE OF THE MAIN HYPOTHESES

The hypotheses are listed below, numbered H1 to H17, split into sub-headings by the specific area of interest they come under.

Company profile

H1 There is a variance in the characteristics of independents, multiples, and combined agents.

Client Profile

H2 Agents have higher sales over the counter,than by telephone.

H3 Travel agents have a low percentage of repeat business.

H4 Their market is localised.

Product Profile

H5 There is a variance in the product mix sold by different agents.

H6 Multiples make higher profits per individual services.

Influence

H7 Certain products are ´high advice´ products.

H8 Travel agents can often influence customers´ product choice.

H9 Principals substantially support travel agents.

Staff Profile

H10 The general staff profile of agency staff is one of average education and experience levels, with a low degree of training and specialisation.

Systems profile

H11 The penetration of systems among travel agents is low.

H12 The many applications of the systems are not fully exploited by travel agents.

H13 The use of computer systems has changed several working practices for travel agents.

H14 Opinions on the advantages and disadvantages of using computers vary.

Productivity figures

H15 Travel agents have low productivity and profitability figures.

Attitudinal profile of travel agents

H16 There is a variance in the perception of different types of travel agents on statements relating to their role, future and the use of technology.

Productivity Determinants

H17 Opinion vary as to what factors constitute ´success´ in a travel agency.

1.4 RESEARCH METHODOLOGY

The methodology by which the research aims were explored took six stages. First was the data collection stage, where information was collected by extensive literature and field searches. The main topics of productivity definition and measurement, productivity determinants and improvement, travel agency role, nature and marketing behaviour, were thoroughly researched and are the topics of Chapters 2 to 3.

A series of contentions were identified from the data collection stage, and these were formulated into seventeen hypotheses within which the productivity, nature and technology use of travel agents could be examined. A suitable output measure for Labour productivity was chosen (value added) and a method to relate

input resources to output was identified (Farrell's Efficiency Production Function method). Farrell's method of calculating production efficiency gives from a set of observations, the optimal output obtained by the most efficient combination of inputs. The concept does not set any constraints or conditions for the computation of production efficiency and it is therefore production function 'free', and this was its main appeal over other productivity measurement methods. The second stage involved quantifying the output measure for a pilot sample of travel agents, and constructing efficiency production functions from the pilot data. The questionnaire which collected data from a sample of UK travel agents was designed, piloted and refined in the third stage. The main survey then followed, with 214 variables being measured, using suitable scales of measurement. Stage 5 involved statistical analyses of the data collected (494 cases of data) in an attempt to shed light on the research aims and hypotheses. Inferences from the statistical analyses revealed a few important areas that needed further study. These were investigated in the sixth stage of the research, by Time and Motion studies undertaken jointly with Air Research Ltd. The main topics studied in the follow-up stage were the sales dynamic between customers and travel agents, and the role of technology in this interaction.

1.5 ORIGINAL ASPECTS OF THE RESEARCH

Some original ground in terms of methodology as well as content has been covered in this research study. The concept of productive efficiency had not been applied to the travel agency sector in this way, in any previous study to the best of the researcher's knowledge. Several contributory factors of productivity were weighed up in the study, not limited to just

the traditional staff and capital inputs. For instance, the efficiency of staff, materials and capital, as well as factors such as the product mix, location and age of the company, have been attempted. The data incepted by the research, collected from a large sample of 494 travel agents, has shed new light on various topics relating to agency behaviour. The time and motion studies have conclusively examined the role of automation, the dynamics of the agent/customer relationship and the capacity of agents to influence client decisions.

1.6 BRIEF SUMMARY OF MAIN FINDINGS

Travel agents were found to be selling only the 'standard products', with minimal variance in product mix between types of agency. The turnover share of services like car/coach hire, hotel bookings and shipping were too low in the observed sample, to reflect natural demand. A very high emphasis was placed by agents on the benefits of a good location, but it was felt that agency access issues (e.g. better communication links, visibility etc.) must be addressed where agency locale was a disadvantage or unchangeable. There was a high level of advice sought of the Agents by clients, and 90% of the sample felt they could influence customer choice. Systems penetration was mainly in the front office, with agents taking to viewdata systems like PRESTEL more easily than to Airline CRS systems like TRAVICOM. The level of usage of several available applications was medium or low, and this reflected a lack of commitment of agents to the technology. Agency productivity levels were relatively low. Several contributors to agency productivity were isolated including age of the company, staff age, training, education, experience, systems installed and applications level, agent/VDU ratio, ratio of supervision, focus of business and principals support level.

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2 PRODUCTIVITY

2.1 INTRODUCTION

Productivity is quite simply the relationship between the outputs from a given system, and the ´human and non-human resources´ that are the inputs used to produce the output. Productivity has been concentrated upon for a variety of factors:-

a) Limited research exists on productivity in service organisations.

b) The concept measures a relationship of ´output´ to ´input´ and therefore examines effectiveness, efficiency and quality in one dimension.

c) It is a measurable and quantifiable indicator.

d) It is useful both as an indicator of factor productivity and as a planning and management tool for productivity improvement.

e) It takes into account all the contributory factors of output and the impact of individual inputs can be used to give factor productivity of the constituting elements.

The measure of output chosen is ´Value Added´, computed from travel agency survey responses. Data on inputs are provided from a 4-page questionnaire targeting a random sample of 2500 ABTA agents. ´Inputs´ are examined under 4 headings :-

a) LABOUR related factors
b) TECHNOLOGY related factors
c) CAPITAL related factors
d) PHYSICAL and OTHER factors

Productivity has been noted to be "too frequently misunderstood" (Fabricant,1961,p.21) and is a topic of much discussion and debate in recent years. A discussion of the origins, various definitions and approaches to productivity measurement and analysis, and the productivity indicator chosen for this study follows to clarify the rationale of its use.

2.2 <u>PRODUCTIVITY</u> : <u>A</u> <u>DISCUSSION</u>

Identified as a primary goal of business (Sutermeister,1976)
´productivity´ has been described as the most common and the
at the same time one of the vaguest concepts in the
linguistics of business and management (Sudit,1984). There
are several explanations of the meaning of productivity, and
several writers begin with describing what productivity is
NOT (Kendrick,1977; Starr,1986; Jassbi,1979).
Productivity has been used synonymously with production,
when it actually denotes a relationship between output and
the resource inputs used in the production process. Output
per man/or man-hour are often used to define the
productivity of an organisation, but in fact only look at
´labour productivity´. Performance is often confused with
productivity. Performance is a generic term and is composed
of several different components. Sink (1986,p.15) identifies
7 criteria making up performance, with productivity as one
of them. Others interpret productivity as the familiar
output per head/man-hour ratio, whereas productivity may
refer to the relationship of output to any or all of the
associated inputs both human and non-human (Kendrick, 1977,
p.33).
Siegel (1986,p.4) who deems productivity as having become a
´vogue word´ emphasises solely the quantitative aspects of
productivity. In his definition ´productivity is a family of
ratios of output quantity to input quantity´. The word
"family" is used as for a variety of factors mentioned in
the text (e.g. a product with more than one measurable
significant attribute, several categories of input etc.) the

number of eligible productivity measures may be very large. Sutermeister (1976) on the other hand stresses the importance of the 'Quality' aspect in productivity by defining it as output per employee-hour quality considered. Some alternate terms, often confused with productivity, are now discussed before detailing its definition. In summary, while there are several different definitions for productivity, it is in simple terms the representation of the relationship between the outputs from a given system, and the human and non-human resource inputs used to produce that output.

2.3 ALTERNATIVE TERMS

2.3.1 PRODUCTION

Mali (1978,p.5) explains the common confusion between production and productivity, in that productivity in production and manufacturing is where it is most visible, tangible and measurable (e.g. tons of steel, or numbers of machines produced). Wells (1957, p.2) clarifies the 2 terms by defining them:-

"Production is the activity of converting units of input into units of output
whereas
Productivity is the relationship between the two."

Norman and Bahiri (1972,p.2) explain that figures of production tell how much is produced, while productivity tells how well the resources have been used in producing it. They clarify further that an increase in production may follow by simply increasing the resources producing it such as:- increase the labour force, working additional hours, producing more capital or equipment. Productivity measures

the ratio of output to input, and an increase in production as a result of increased resources, may not necessarily increase productivity. Thus, productivity measures an aspect of production by relating output produced to input resources, and is not a synonym for it.

2.3.2 PERFORMANCE

Clay and Walley (1965) refer to performance as a specific analysis developed in the UK for measuring the effectiveness of a system with which manpower is being utilised. Mundel (1980) describes performance as the measure of output against current year standard times (as opposed to base year standard times). The first definition is more a work measurement method in its focus on manpower utilisation. Scott Sink (1984) offers a more encompassing definition of performance and points out that productivity is often and wrongly confused with performance. Productivity, he stresses, is a component of performance and not a synonym for it. Sink regards productivity as one of a group of 7 'performance criteria' useful in the management and improvement of organisational systems.

Organisational performance has as its other 6 criteria:-effectiveness, efficiency, quality of work life, innovation and profitability or profit performance. The 7 criteria are not independent of one another, but are causally related. Figure 2.1 represents a conceptual picture of these interrelationships.

Quality of Work Life and
Innovation are pervasive criteria
influencing performance in many ways

B. Paths

A. Goals

```
                            ┌─────────────────┐
                        ──> │   Efficiency    │
                            └─────────────────┘
┌─────────────────┐         Are   we   doing          ┌─────────────────┐
│  Effectiveness  │ ──>       things right ?       ──> │  Productivity   │
└─────────────────┘                                    └─────────────────┘
                            ┌─────────────────┐
  Are we doing the      ──> │     Quality     │                 │
   right things ?           └─────────────────┘                 ▼
                                                       ┌─────────────────┐
 Is there concensus          . Inputs                  │  Profitability  │
    about this ?             . Transformations         └─────────────────┘
                             . Outputs
                             . Outcomes
```
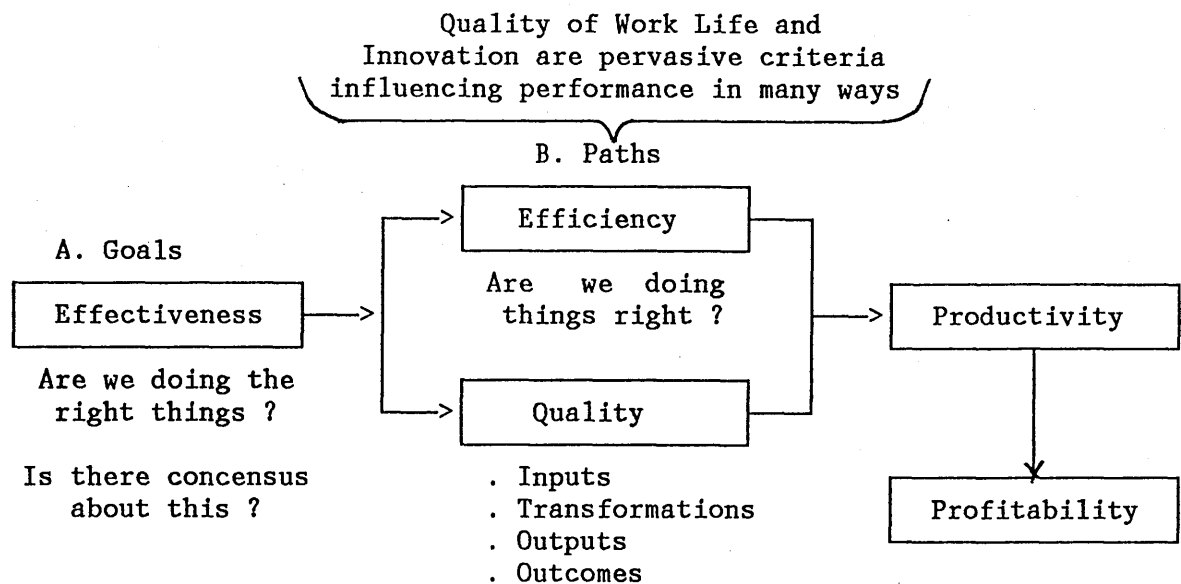
Figure 2.1   INTERRELATIONSHIPS OF THE SEVEN PERFORMANCE CRITERIA
Source   : Scott Sink (1986, pp. 8)

It is interesting to note that generally the Japanese drive the performance model from left to right, while most American organisations seemingly drive it from right to left. Travel agencies could be one of such groups where profit goals have been focused upon at the expense of longer term effectiveness and survival issues.

An Organisation System Performance Management model is represented in Figure 2.2. Here, the organisational system is depicted as an Input-transformation process Output model, with inputs and outputs 'tagged' with attributes of quality, quality and price or costs. The produced outputs are distributed, and 'outcomes' occur. The lower half of the system represents the measurement,evaluation, control and improvement component of the process. The feedback loop in the model represents the control and improvement process.
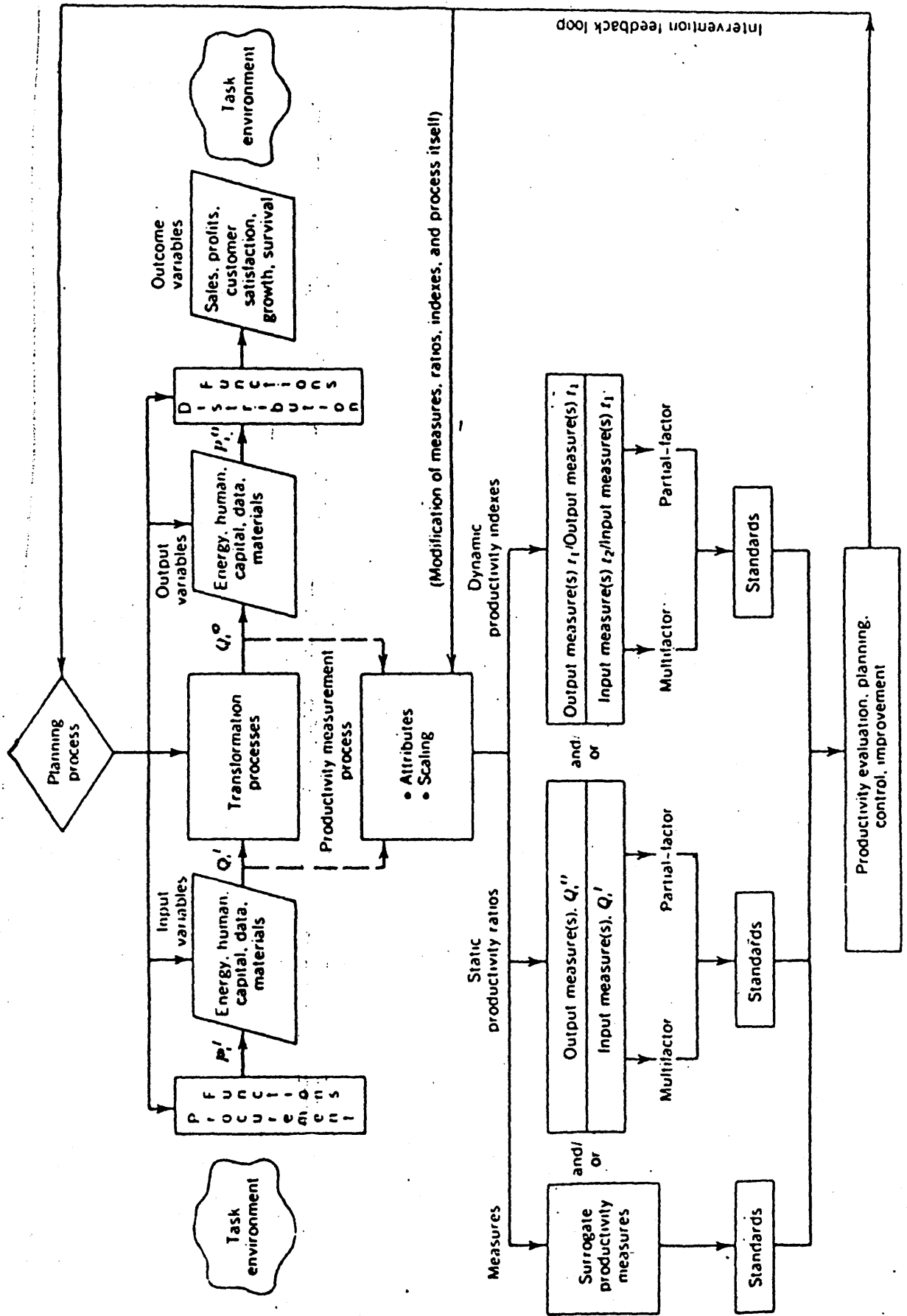
Figure 2.2   ORGANISATION SYSTEM PERFORMANCE MANAGEMENT MODEL
Source   Scott Sink (1986, pp. 15)

In conclusion, performance is a generic term consisting of several assessment criteria, of which productivity is one.

2.3.3 EFFECTIVENESS

This can be described as the degree to which the system accomplishes what it set out to accomplish. Evaluation of this aspect requires data on intentions and actual outcomes in terms of quality, quantity and timeliness (Sink 1984). In other words the effectiveness of any enterprise relates to the extent to which it uses resources, and in the process produces something saleable or required, that is the products or services that the market needs (Jassbi,1979). Effectiveness is different from productivity in that it is related to accomplishment based on market needs, whereas the latter focuses on quality,quantity and timeliness of output as related to inputs.

2.3.4 EFFICIENCY

Efficiency is an economic concept and is to do with the allocation and use made of available resources. It is given by the ratio of resource expected to be consumed to resources actually consumed (Sink 1984). It is therefore the optimal resources utilised to produce a satisfactory output in a given system, and is an issue focusing on the ´Input´ side of a production system. Productivity is different in that it relates actual inputs consumed to output, and not to a measure of expected inputs.

2.3.5 QUALITY

Quality is the degree to which the system conforms to requirements, specifications or expectations. In its assessment, quality ´attributes´ describing specific characteristics for which a product/service is designed, must be laid down. Again, this performance criteria accents on outcomes or results as valued against certain criteria. Productivity looks at the outputs of the system in relation to the factor inputs that produced it.

2.3.6 PROFITABILITY OR PROFIT PERFORMANCE

Often represented as a measure of productivity, profitability is the relationship between total revenue (or in some cases budget) and total costs (or in some cases actual expenses). Several financial ratios offer a basis for profitability analysis. While productivity relates output produced from inputs introduced in a system, profitability is simply the difference between output and input expressed in financial terms. It is widely regarded as the ultimate measure of management success. Of 16 travel agents interviewed in the pretesting stage, 14 (88%) mentioned profit or "the bottom line" as their overall indicator of company performance.

2.4 PRODUCTIVITY

Productivity is the relationship of resources input to the outputs produced as a result. Schematically, the general concept of productivity is represented in Figure 2.3.

Regardless of perspective, the main sub-headings in this fundamental model of the productivity system remain constant. There are differences in systems, data sources, collection methods and devices, analysis, approaches etc. but the same basic relationship is being operationalised (Mali,1978). Figure 2.3 is a representation of Mali's model for this particular study, concentrating on the travel agency as the unit of business activity, and a discussion of the travel agency productivity management process follows.

The mission of a travel agent has a dual aspect to it in that the needs of the public as well as the travel principals must be served. In turn the end results output from the travel agency management process is also double sided - attempting to keep customers as well as suppliers satisfied. The input resources used to achieve the mission and results are several, including staff, information etc. as outlined on the figure overleaf. These are used in varying proportions as elements in the 'work process sequence' box, where the product is prepared for delivery to the client. The product could range from an enquiry on skiing holidays, to a plane ticket or a hotel booking.

The culmination of the efforts of the work process is the sale or service delivered to the client. Output from the system can be measured in terms of business volume, profit, etc. and value added is the chosen method in this study. Output / Input measurement, which involves comparing output to various input resources, represents the feedback stage. Information on the efficiency of the different inputs and the proportion of output produced, can be used to assess future resource requirements and attempt improvements.
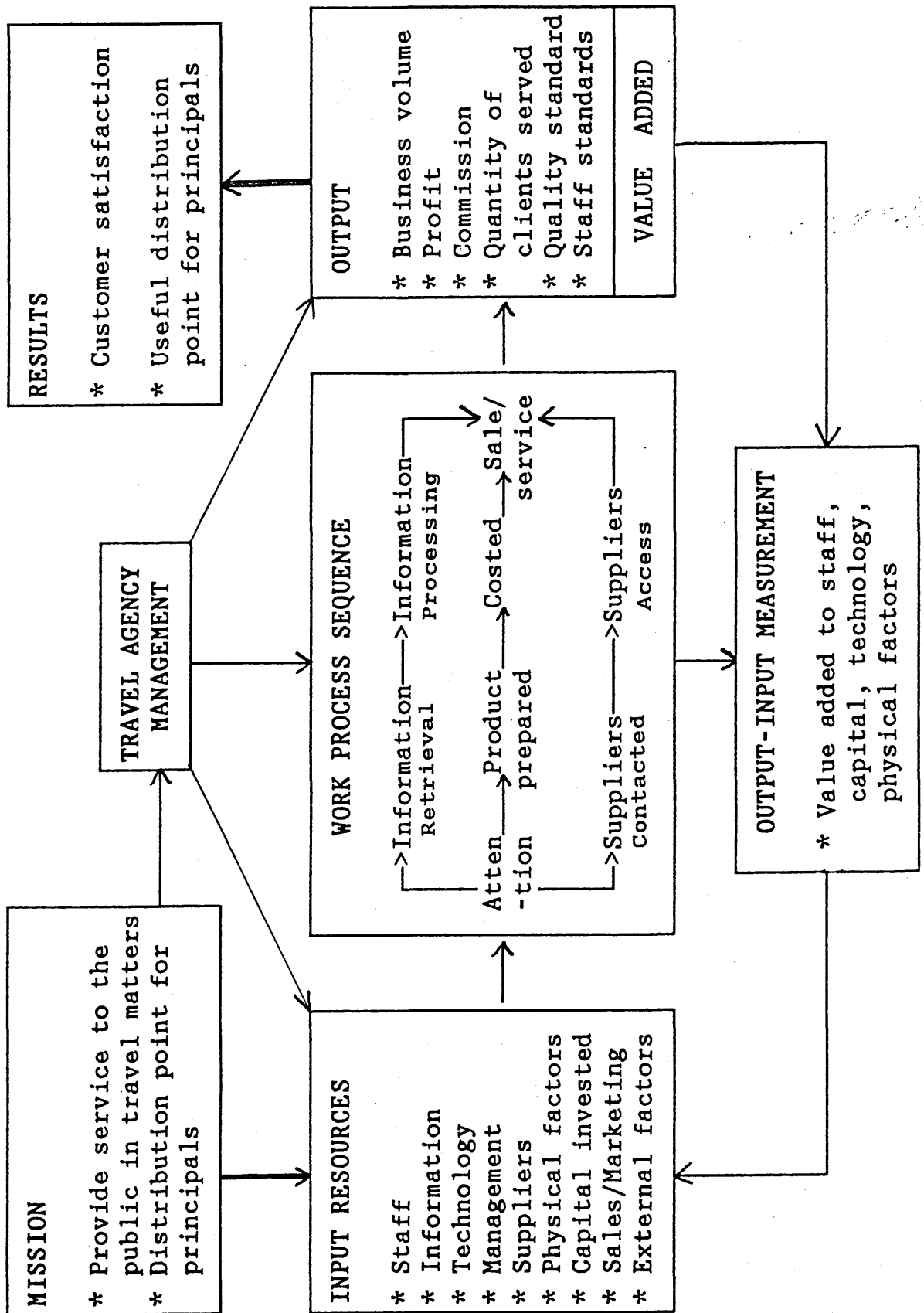
Figure 2.3   TRAVEL AGENCY PRODUCTIVITY MANAGEMENT PROCESS

2.5 PRODUCTIVITY & OTHER CRITERIA: A Discussion

It can be demonstrated that productivity incorporates both effectiveness and efficiency in its definition, it is linked closely to profitability and innovation, and can be made to reflect quality and quality of work life.

2.5.1 EFFECTIVENESS

Effectiveness by definition concentrates on 'accomplishment', i.e. it is an issue focusing on the output side of the system. Efficiency, which is the degree to which the system utilised the resources, focuses on the input side of the system. Productivity, that examines quantities of output and quantities of input of a given system thus incorporates elements of these two (i.e. effectiveness and efficiency)important criteria of organisational performance. Productivity can be represented as :-

$$PRODUCTIVITY = \frac{Qi0}{Qi1}$$

where: the numerator Qi when conceptualized as good output in terms of both quantity and quality contains an aspect of effectiveness

the denominator Qi1 refers to the resources actually consumed defining an efficiency aspect

Mali (1978) defines productivity as the measure of how well resources are brought together in organisations and utilized for accomplishing a set of results. Productivity is the highest level of performance with the least expenditure of resources. This definition when analysed has two parts: the first to do with 'accomplishing results' as a main focus of the productivity concept ("without a set of results there is

no productivity" p.6). This in effect captures the essence
of the term ´effectiveness´. The second part of the
definition deals with the consuming or expenditure of
resources ("without which there are no achievements and
productivity does not occur" p.7) in the least way possible,
which in essence is the concept of efficiency. The
productivity index or P.I. can now be represented as:

$$P.I.= \frac{Output\ obtained}{Input\ expended} = \frac{Performance\ achieved}{Resources\ consumed} = \frac{Effectiveness}{Efficiency}$$

2.5.2 PRODUCTIVITY AND INNOVATION

Innovation can be defined as ´applied creativity´. It is the
process by which new, better, functional products are
developed and made available. Taking the dictionary as a
starting point Smith (1973) identifies productivity as the
use of creative or productive power measured by the results
of that use. He quotes the Oxford English dictionary
definition as ´the quality or state of being productive, as
the possession and use of power to cause or bring about,make
or manufacture´. Creativity is thus an important component
of productivity, and runs parallel to innovation.

2.5.3 PROFITABILITY AND PRODUCTIVITY

Profit performance as a measure is not always a good
indicator of overall performance as it is only the financial
representation of results. Some areas cannot ´be cleared´
just by financial ratios, as for instance profit high
inflation etc. Here, there may be an increase in recorded

profit, but this may or may not effect productivity. Also in a monopoly situation (very relevant in the travel agency industry where ´multiples´ command) profitability may not be the ideal basis of assessment and comparison.

An interrelation exists amongst the 7 performance criteria. Since productivity looks at ´what goes in´, the transformation process and ´what comes out´ it essentially looks at the whole production process. Quality of inputs will be reflected in the quality of output produced, as also the quality of work life will influence output. Measures of productivity can be made to reflect these important two criteria of organisational performance.

2.6 PRODUCTIVITY MEASUREMENT

Heaton (1977) stresses that what cannot be measured cannot be controlled. Writing about service organisations he states that by not measuring the productivity of organisations in serving people, we have relinquished control over organisations. Productivity measurement is the selection of physical, temporal, and /or perceptual measures for both input and output variables, and the development of a ratio of Output measure(s) to Input measure(s) (Scott Sink, 1984,p.23). There are several approaches both varied and contrasting in the literature, and a review of techniques more relevant to the service industries is now discussed. In this context Sherman (1984) cautions that measuring the productivity of service businesses requires techniques that are more sensitive than accounting and financial ratio measures. Shetty (1982) opines that the best productivity

measures are those that are realistic, relative and understandable.

It is also to be noted that productivity measures are constructed within the constraints of data, time, convenience, ease of calculation etc. There is no one universally applicable measure of productivity, and while the basic definition must be adhered to, measures adapt to the related factors of data, ease of calculation etc. This study uses the value added measure for output from travel agencies, within the framework of Farrell's Efficiency Production Function to obtain ratios of factor and combined productivity.

Some terms defined for this study:-

Input variable: any controllable factor or resource that may be acquired in various quantities, types and/or qualities (e.g. energy,people, materials, data).

Output variable: any controllable factor or resource that results from a transformation:- a change in the form, outward appearance, condition, nature,function, personality, character and so forth of an input variable (e.g. training, manufacturing, processing).

2.7 PURPOSES OF PRODUCTIVITY MEASUREMENT

An understanding of productivity measurement could be gained from analysing why it is to be measured. Eilon and Soesan (1976) list four main purposes of measuring productivity:-

a) for strategic purposes:- productivity measures can be used as a bases for comparison of the firm with competitors.

b) for tactical purposes:- the comparative productivity of individual sectors of firm, isolated by function or by product would be a useful tactical for the firm.

c) for planning purposes:- dynamic productivity indices and other productivity ratios (explained in the next section) could assist in planning as it would indicate past experiences and aid subsequent plans.

d) for other management purposes:- including staff appraisal and incentives, general factor utilisation etc.

Mundel (1980) gives a number of uses of productivity measures, and among them are:-

a) a rational allocation of manpower.
b) a basis for comparing alternative methods.
c) a basis for planning and control.
d) a basis for rational, meaningful discussion of alternative budgets.

Rostas (1955) and Bert(1970) mention a need for productivity measurement for general economic analysis, incentive industry studies and measurement at plant level. Jassbi (1979) classifies 5 different levels of productivity measurement and details the measures in each level:-

a) General economic analysis:- this is at National level for comparison and forecasting with respect to changes in income and output, occupational shifts, labour requirements, population, aggregate prices, foreign trade and markets etc.

b) Inter-industry level comparison of any individual industry over a number of periods (can be extended to same industry in different countries in the world market) enables industry to use results to compare strengths and weaknesses of competitors.

c) Level of individual firms. Here productivity measures can be examine technical, economic and managerial aspects in different places or over different periods or both.

d) Plant level. Comparison of a particular plant over a single or a number of periods (for managerial effectiveness and control) includes comparison of productivity of a particular plant with its own firm or industry.

e) Section and Product:- measures applied to a single section or product within a firm or plant over a number of periods, or a group of products between different firms or plants.

In this research productivity and measurement is applied to the travel agency sector and individual firms are compared

across the UK. The main purposes for measuring productivity
for this study are:-

a) To differentiate relative levels of productivity in
travel agencies with respect to 4 groups of factors:-
labour related, technology related, capital related,
physical and other factors.

b) To establish productivity ratios and indices to give
´high´ and ´low´ productive travel agencies.

c) To correlate productivity measures with qualitative and
quantitative data on travel agencies, and to give the
extent of impact of the contributory factors on
productivity.

d) To demonstrate that productivity measures are good
indicators of travel agency performance.

e) To conduct and suggest factors responsible for
productivity improvement in travel agencies.

2.8 PROBLEMS OF PRODUCTIVITY MEASUREMENT

As well as practical difficulties, problems of defining and

isolating input and output factors that are significant and

relevant indicators exist in measuring productivity. Sink

(1985) identifies five factors that inhibit the use of

productivity analysis in organisations :-

a) The existence of multiple products/services leading to
the need for an output measure that encompasses total
output expressed in one denomination.

b) Most organisational systems are faced with continual
price and cost fluctuations, resulting from a variety of
internal and external factors.

c) Organisations redesign products, services, processes etc.
on an ongoing basis, that would complicate the
productivity measure.

d) Other performance measures such as quality,
effectiveness, efficiency or profitability may be more
suitable types of measures for the organisation to
pursue.

e) The variety of types and levels of input resources each
with specific costs and other significant
characteristics, is yet another problem.

2.9 STAGES IN PRODUCTIVITY MEASUREMENT

Cox (1979) identifies three steps of measurement whichever definition of productivity is taken :

a) Measuring output
b) Quantifying input
c) Comparing result with – previous experience/plans/budgets
                                      – someone else´s experience/result

a) Measuring output

At national level output is measured in ´money´ terms, that is a convenient link between production items as diverse as motor cars and tons of steel. Output can also be measured in quantity, more suitable as a measure in a single product company (e.g. tons of steel, gallons of water etc.). A third way of measuring output is by translating output units in terms of one of the elements that has gone into it (e.g. equivalent man-hours, units of raw material/ energy etc.). Most firms do adopt financial measures as the most convenient dealing with all variations of standard and non-standard products. Once a measure of output is defined it is related to input(s).

b) Quantifying Input

Input may be measured in terms of man-hours, units of material, labour cost, capital employed etc. and productivity ratios for individual factor inputs obtained. Inputs maybe aggregated in terms of physical, financial or equivalent measures.

c) Comparing the result

The productivity measure is usually calculated by dividing the output, however defined, by the number of units of

input. However, this ratio does not indicate much, unless it is compared to a previous year, to competitors, with the entire industry or with foreign industries.

Two basic types of productivity measures are static productivity ratios and dynamic productivity indices.

a) Static productivity ratios describe a ratio of a measure(s) of output(O) to a measure(s) of input(I) for a given point in time(t).

Static productivity ratio $= O_{(t)} / I_{(t)}$

b) Dynamic productivity indices are computed from dividing a given static productivity ratio at one point in time(t) by the same ratio at a previous point in time(t-n). This measure gives the change from one period to the next.

$$\text{Dynamic productivity index} = \frac{O_{(t)} / I_{(t)}}{O_{(t-n)} / I_{(t-n)}}$$

Productivity indices can also be obtained by dividing productivity ratios comparing two firms, firm and industry, other industries, foreign firms. In each category two types of productivity measures are possible according to the number of inputs included in the denominator.

a) Partial factor productivity is computed when a measure of output is compared to a single input factor e.g. labour, capital. This type of measure has been widely used in productivity studies, the most common being being Output per head/ man-hour. This type of productivity measure is considered useful when comparing output to a key or scarce input.

b) Multi-factor productivity measures relate two or more input factors to a measure of output. Examples are output compared to labour and materials, energy and materials, etc.

2.10 PRODUCTIVITY MEASUREMENT METHODS : Review & Discussion

Several techniques are outlined in the literature, attempting to measure productivity. A review and assessment of each method follows, together with the rationale for choosing Farrell's approach with a value added measure of output.

2.10.1 Financial Ratios

Financial ratios describe a ratio relating output to input expressed in financial terms. It is the most common yardstick of overall business performance and is said to be a criterion best developed in terms of measures, evaluation procedures, techniques and standards (Scott Sink,1984). A formalised system of ratios exist, most often used by investors and creditors to evaluate the profitability and security of their business interests. Within financial ratio analysis there are four groups of ratios:-

i)   Liquidity Ratios measure the ability of the company to meet its short term requirements and are mainly represented by :

     (1) Current Ratio   Current Assets : Current Liabilities

     (2) Quick or Acid   Quick Assets   : Current Liabilities
         Test Ratio   (Current Assets
                          less inventory)

ii) Leverage Ratios are useful as indicators of the 'margin of safety', as they compare finance supplied by the company's creditors to the funds provided by the owners. Two main ratios are in common use :-

     (1) Debt Ratio   - relates total debt to total assets and therefore indicates the percentage of funds that the creditors provide.

(2) Time Interest-earned Ratio - describes the gross income (earnings before interest and tax) to interest charges. It gives the extent to which earnings can fall without causing serious problems in meeting annual interest charges.

iii) <u>Activity Ratios</u> indicate the company's degree of effectiveness in the use of its resources :-

(1) Inventory turnover - gives the efficiency of stock control policy by relating sales to inventories.

(2) Average collection-period Ratio - indicates the number of days involved in receivables, and is computed by relating annual sales to 360 days, or by relating accounting receivables to sales per day.

iv) <u>Profitability Ratios</u> - are of popular usage, and as the name suggests, relate profit to sales, assets and other financial factors. They are usually represented by two main ratios :-

(1) <u>R</u>eturn <u>O</u>n <u>I</u>nvestment or ROI- compares nett profit after tax to total assets.

(2) The Profit Margin - relates nett profit after tax to total sales of the company.

Theoretically there are no limits to the number of ratios that can be derived. Foulke (1968) suggests that five hundred or more can be computed, but it is important to consider the usefulness or relevance of the relationship. Financial ratios are broadly concerned with 'Sales return on capital employed' or 'Profits to Assets' ratios, often referred to as a measure of business efficiency, and occasionally by some company executives as a measure of productivity (Norman and Bahiri, 1972). The objective of most financial measures is to provide management with a set of signposts that are to be interpreted with care. In the

words of Witschey (1966, p 23) - "Accounting neither strives for nor attains absolute truth. Although it is characterised by a rather elaborate theoretical framework, its results are usually dependent upon judgement." He describes its focal objective as the monitoring and describing of change resulting from the efficiency of operations. Ingham and Harrington (1963) have arranged a collection of simple but comprehensive measures into a logically constructed pyramidal framework for the Centre for Interfirm Comparison, which is presented in Figure 2.4.

Discussion

While financial ratio analysis is a popular measure with well developed techniques, certain inherent drawbacks make it unsuitable for use as a productivity measure. It is not a good indicator of overall company productivity (that by definition should reflect the total output to input factors), as this requires all factors to be quantified in financial terms and aggregated. Also, those ratios that are sales oriented may reflect a sales value (and therefore a profit) that is strongly influenced by supply and demand, and not by the efficiency of production (Norman and Bahiri, 1972).

1. Operating profit / Operating assets

2. Operating profit / Sales × 3. Sales / Operating assets

4. Production cost of sales / Sales + 6. Distribution and marketing costs / Sales + 7. Administrative costs / Sales

5. Research and development costs / Sales

12. Current assets / Sales + 13. Fixed assets / Sales

3a. Operating assets / Sales

8. Materials cost / Sales value of production + 9. Works labour cost / Sales value of production + 10. Other production costs / Sales value of production + 11. Work subcontracted / Sales value of production

14. Materials stock / Sales + 15. Work in progress / Sales + 16. Finished goods stock / Sales + 17. Debtors / Sales

18. Land and buildings / Sales + 19. Plant and machinery / Sales + 20. Vehicles / Sales

Figure 2.4   FINANCIAL RATIOS PYRAMID
Source   Centre for Interfirm Comparison, Ingham (1963).

2.10.2 Productivity Costing Approach

This approach considers the contributions to the productivity of the firm from individual products rather than of operating units or functional activities. In other words productivity of a product is measured by its efficiency in making a profit. Bahiri and Martin (1968) the main protagonists of this approach advocate measuring only that work which is truly productive, in relation to the objectives of the organisation concerned. The approach rests on the basic assumption that an industrial systems' operating costs remain essentially stable over the whole range of output variations in the system. Therefore once the productive facilities have been identified, productivity can be measured by total earnings (T) of those productive facilities, and at the rate at which each product (C) generates profit. Bahiri and Martin then set up a list of various productivity indices. A basis or key index called the Product Productivity Index is computed by relating total earnings of the individual product to the cost of producing it, given by Td/Cd. Products can then be ranked by individual productivity indices (represented in Figure 2.7). The method was first introduced by Tolkowsky (1964) in two industrial firms. He notes that productivity costing highlights the costing of manufactured goods, the significance of the degree of utilisation capacity and the impact of idle time on the costs of production.
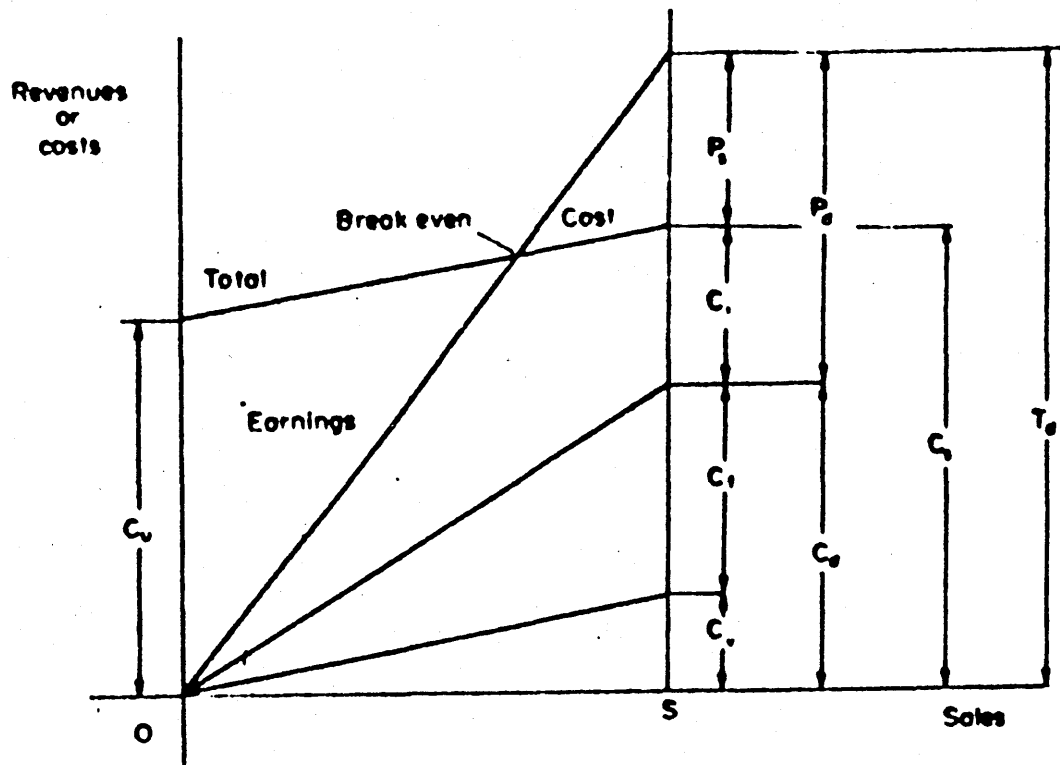
S	Sales revenue	
M	Materials costs	
T_d	Total earnings	$(S-M)$
C_u	Fixed processing costs	$(C_f + C_i)$
C_v	Variable processing costs	
C_f	Product processing (facilities) cost	
C_d	Total product processing cost	$(C_v + C_f)$
P_d	Product profit	$(T_d - C_d)$
C_s	System operating costs	$(C_u + C_v)$
C_i	Idle facilities costs	$(C_s - C_d)$
P_s	System operating profit	$(P_d - C_i)$

Figure 2.5   PRODUCTIVITY COSTING - Breakdown of components

Discussion

This method focuses entirely on costs, ignoring underlying physical resource flows and input factor prices. In the view of Eilon and Soesan (1976) this approach is somewhat removed from the general connotation of productivity. They feel it is more related with business concepts of profit margins by product lines, and allocations to specified cost categories, rather than to the interaction between physical output and input resource flows. By its very designation ´productivity costing´ the method has its flows entirely on cost (and revenue) and is not considered an accurate indication of company productivity.

2.10.3 Actual and Embodied Labour

This approach based on labour productivity, involves the conversion of all input factors into a common denominator of labour units. It involves therefore the calculation of materials, equipment etc. in terms of labour units, to give what is termed ´embodied labour´.

The principle is based on concepts dating back to Adam Smith and Karl Marx. The premise was that labour was the only source of value and it alone could transmute base materials into saleable products. All materials, depreciation, services and final products are converted into manpower equivalents by dividing the output or input in financial terms, by the current average annual wages. Smith and Beeching (1949) advocate this productivity measure focused on actual and embodied labour content. They suggest that

the manpower equivalents of capital equipment, services and materials bought be added to the labour used in the plant. These additions were computed by taking the value of raw materials, services and depreciation and dividing this by the national average annual income per employee. This results in a total number of ´men´ that can be divided into output for the year to get a figure of output per man-year as represented below:

$$
\text{Labour Productivity Measure} = \frac{\text{Sales Output}}{\text{Total number of employees} + \dfrac{\text{Capital} + \text{External Expenditure}}{\text{Average earnings per annum}}}
$$

$$
= \frac{\text{Sales Output}}{\text{Labour (live or actual)} + \text{Labour (embodied)}}
$$

Discussion

This method´s main drawback is the problem of computation. It is difficult to reduce the labour factor itself to measurable ´labour units´ because of the complexity of the workforce, like staff skill levels, wages, experience etc. It is even more problematic to convert all facility input to labour input (e.g. hired and old equipment).Another important weakness of the index is that sales figures are often misleading since they include bought-out materials, supplies and services, the price of which includes the profits of supplying companies. Finally, the significance and information transmitted from an index based on only labour criteria is doubtful. The limitations make it unsuitable as a productivity measure for this study.

2.10.4 Financial Efficiency Model

This measurement technique was developed by Carlson (1975) with data collected from the drug industry. An index of financial efficiency was constructed using a rank correlation test. A correlation was found between seven financial ratios (current ratio, cash turnover, inventory turnover, fixed assets turnover, inventory turnover, debt ratio and dividend payout) as independent variables, with shareholder wealth appreciation as a dependent variable. The index was computed in 9 steps :

i)   A mean value was calculated for each dependent and independent variable of companies in the drug industry.

ii)   All the drug companies were then ranked from high to low based on the mean value of their dependent variable.

iii) All values of independent variables were normalised on a scale from 1 to 100.

iv)   Several combinations of weighting factors were selected that added upto 100.

v)   The selected list of weighting factors were multiplied by the normalised value from step (i).

vi)   A composite value was computed by adding the component scores obtained from step (v), for each firm.

vii) Each company's composite value was ranked in descending order.

viii) Using the set of weighting factors from step (iv), a Spearman-Rho rank correlation test was run between the rankings in steps (ii) and (vii).

ix)   Of the composite values arrived at the highest Spearman -Rho coefficient was selected as the index of financial efficiency.

Discussion

This method has an advantage over other financial methods in that it considers seven financial ratios simultaneously by

integrating them into a single index. This can give an overall measure of financial efficiency of the company, and the computational problem has been solved by a simple computer program. Jassbi (1979) details two main limitations of the approach, that is applicable in his opinion to other industries as well. Firstly being an internal measure it does not take into account the company outside that industry or/and in the same industry in different countries. Secondly the base of correlation in the model - shareholders wealth - is purely a financial measure and has less impact on productive measures.

2.10.5 Operational Research Techniques

Some efforts at productivity analysis have employed operational research techniques. In general mathematical programming can be used to find the critical limiting factors in any given productive process. The techniques focus on the optimisation of a single objective function, drawn up from a managerial specification or from a weighted sum of several objectives. A set of drawn up pre-specified measures considered as desirable standards are the targets set. It is useful as a guide to management as it serves to control the critical variables in the production process.

Ijiri (1965) presents a variant to the above single objective function in mathematical programming with his 'Goal Programming Formulation.' It starts with a set of desirable goals or targets associated with defined measures of performance, that could consist of financial, physical or other measures. He then proceeds to measure the extent to

which targets are ´missed´ -classified as ´underages´ (where there are shortfalls) and ´overages´ (where targets are exceeded). An objective function of weighted overages and underages is then constructed, so that when the function is minimised, a solution is obtained as close as possible to the given set of goals.

Discussion

A possible merit of this approach is that it highlights the critical constraining variables in a given system. This enables management to direct its attention to areas of greatest concern. The drawback of this method is that the goals are essentially arbitrary and reflect a desire to some past performance criteria or the effect of certain constraints inherent in the system. The problem of comparing the performance of two units remains unsolved. This may be attainable if individual and specific performance measures are defined with a ranking or weighting procedure that reduces all measures to a single denominator. It can be an effective aid to management in isolating influencing criteria in a system and in planning accordingly. To conclude in the words of Eilon and Soesan (1976) - "Goal programming may be regarded as a useful planning tool, but it is not very amenable to measuring productivity."

2.10.6 Engineer´s Measures of Productivity

Norman and Bahiri (1972) classify three types of productivity measures as Accountants measures (discussed in

(a) above), Economists measures of productivity (discussed in [i]) and finally the Engineer's measure of productivity. In their view engineer's conceptualize efficiency (EFF) as the measure of the amount energy /fuel supplied (IF) and converted into useful work (OU).

$$EFF = \frac{OU}{IF} \substack{<\\ \setminus} 1 \qquad IF = \text{Input Factors}$$

They now define productivity as laid down in the 'terminology of productivity' as the quotient obtained by dividing product (OU) by one of the factors of production (IF), be it capital investment or raw material.

$$PRODUCTIVITY = \frac{OU}{IF} = EFF \substack{<\\ \setminus} 1$$

In other words, productivity is seen as the efficiency of 'producing activity' and implies an Output/ Input relationship. It is said to be a version of the normal engineering expression for the efficiency of a machine. However, in physical terms, since input is converted to output it cannot exceed unity, but may do so in financial values. Further since potential output is equal to the input the degree of achievement of this conversion (useful Vs. potential) is another measure that cannot exceed unity. In financial terms however, the value of output must be greater than the cost of input if the business is to generate a profit. For useful output (OP) depends upon how well the input factor (IF) is utilised.

$$PRODUCTIVITY = \frac{OU}{IF} = \frac{IF - Losses}{IF} = \frac{OU}{OP} = EFF \substack{<\\ \setminus} 1$$

From this expression three productivity ratios are given :-

i)   Generation of useful output by input $\dfrac{\text{Useful Output}}{\text{Input}}$

ii)   Utilisation of systems input $\dfrac{\text{Effective input}}{\text{Actual input}}$

iii) Actual (useful) output to potential (useful) output

The level of resource utilisation is now compared to a standard (based on a past level or industry or national average) to measure relative productivity levels.

Discussion

The engineering measure is purely a physical measure and is useful to the engineer. It's relevance in other, and especially service-type organisations is questionable. For instance, in the case of homogeneous product type manufacture (e.g. gas and electricity) the physical volume of output can be regarded as an absolute measure of productivity. The financial and other implications are not included and an understanding of the physical controls of input is essential. Also the setting of a 'standard' to compare measures with is based on past experience or other factors, sets a constraint on the model.

2.10.7 Value Added

The term value added (or added value) refers to the contributions made by a firm, industry or other kind of organisation over the value of raw materials, bought-in goods and services. Value added is believed to have been first devised by the American economist Tenche Cox of the US

treasury in the eighteenth century (Cox, 1979). The primary objective was to measure the income of the country and its subsequent changes. In order to avoid ´double counting´ from the inclusion of both final and the related intermediate products, a measure of value added relating to the final product was devised. It was computed by the total value of production less the cost of bought in services and materials.

Several micro economists (Koplin 1971, Koutsoyiannis 1979, Nevin 1973) conceptualize a firm itself as an organisation operating under a single control and concerned with the transformation of materials or services into a product of greater economic value than the input embodied in it. The transformation may involve nothing other than changing the location of resources as in the distributive process (as for the retail travel agent) without changing their shape, colour or form in any way. In other words, the end product should be more valuable in some sense than the input used in producing it. The concept of value added or nett output thus seems an ideal method to assess the productivity of a given organisation. Value added is measured by the difference between final or gross output and the value of intermediate goods and services that are used up or ´input´ into the production process. It thus gives the precise value of what the given organisation has contributed in the production transformation, to add to the value of final goods and services.

Cox (1979) presents two definitions of value added. The first originates from the Corporate Report (Accounting Standards Committee, 1977) and declares value added to be

the wealth the reporting entity has been able to create by its own and its employees´ efforts. The second taken from the ICMA report (ICMA, 1975) defines value added as the increase in the market value resulting from an alteration in the form, location or availability of a product or service, excluding the cost of bought-out materials and services. Cox describes the latter definition as more apt in the case of manufacturing industries.

Measures of productivity relating net output to factor inputs are used in National Income accounts to assess industry sector performance. Net output in this context is simply the value of goods and services produced less the value of bought-in goods and services required by the production process, which is the same as value added (Smith, 1980).

Marimont (1969) describes how the Office of Business Economics(OBE) measures the output of Finance, Insurance and Real estate (FIRE) industries. They relate the dollar value of annual contribution from each end, that is the GPO (Gross Product Originating) or value added to total GNP (Gross National Product). The values are expressed in current market prices and market prices for a base year to give ´real´ units of output. In the calculation, the OBE deflate the values at current prices using highly specified price indices. They quote the definition of Industry Gross Product (or GPO) from National Income and Product accounts as the amount contributed by the observed industry to the nation´s output of final goods and services. This is given by the amount by which the market value of the industry´s total

output exceeds the value of materials and services it buys. This is in other words value added and is measured as an aggregate of the industry's factor costs (employee compensation, profits, interest etc.) and non-factor costs (depreciation, indirect business taxes etc.) expressed in current dollars.

Wood (1976) also uses and advocates the concept of value added to measure and compare manpower productivity in different industries, as well as levels of output, wages and capital expenditure. He computes and compares net output or value added (suitably deflated) for 150 sectors of British industry, and relates the values to input factors to obtain productivity indices (e.g. value added per head, per £ of wages, per £ of capital employed etc.).

Sumanth (1981) in his article surveying productivity methods lays down that the ratio of net output (or value added output) in constant dollars, to the sum of labour and capital inputs is a total factor productivity measure. For instance the ratio of physical units of value added output to dollar (labour and capital) inputs. He records however in the survey that was computed from responses of 61 industrial companies that this total factor productivity measure of relating net output to aggregate input was quoted only 1 % of the time as a productivity indicator.

Klotz et al (1984) suggest the grouping and ranking of companies on the basis of their ´concept´ productivity or their value added per production worker man-hour. Blois (1982) uses the measure of ´conversion efficiency´ of value added per man-hour (or other input factors) to quantify productivity for the service industries.

Mark (1982) of the Bureau of Labour Statistics (BLS), while reviewing productivity measurement in service industries stresses that it is important to concentrate on final services and not intermediate ones. He considers productivity measurement as the relationship between final output to input. The value added concept that takes into account the value of the final output is therefore an approach that eliminates double counting, that Mark cautions about. Mark also refers to the value added concept in conjunction with the retail industry. (This is very noteworthy to the travel agent who is the retailer in the tourism and travel industry.) He asserts that in a retail situation, since a large portion of sales has been provided by the manufacturer (in this case the travel principals - airlines,hotels etc.) and the wholesaler (tour operators) of the product, a net output measure would be desirable, as it would indicate closely the ´value added´ by the retailer. The BLS (Takeuchi, 1981) expressing a preference for value added based measures defines real output as the extra value that the retailer adds to goods purchased from outside so that they may be better accepted by customers.

Ball (1968) argues that value added per unit is superior to the Rate of Return on Investment (RORI) as a measure of company performance. He opines that the RORI would be more responsive to the product price effect of the monopoly position of firms, and lead to anomalies in measurement. Robertson (1968) supports this view, and uses adjusted value added as a percentage of man-hours for a measure of productivity.

Norman and Bahiri (1972) allude to the Department of Trade and Industry measures of productivity as net output or value added per employee. Added value represents here the value added to materials by the process of production and constitutes the fund from which wages, rent, rates, tax reserves and dividends, selling,distribution and advertising costs, depreciation on machines, plant and buildings have to be met.

$$AV = S-X$$

Where S = total value of sales and work done + value of stocks at year end, adjusted for stocks at year beginning.

Where X = sum of external expenses, materials and contract services, power, fuel and water, packing and supplies, consumable items and tools.

Accountants have taken up the value added concept and the Accounting Standards Committee (ASC) recommend that companies publish annual statements of value added. Wood (1978) who regards value added as the ´key to prosperity´ gives three main advantages of the measure :-

i) It is significant for both employees and investors (unlike ROCE ratios).

ii) It is less distorted by inflation.

iii) It emphasises the fundamental relationship between capital investment, manpower productivity and wages.

The Engineering Employees Federation (EEF, 1977) describe value added as being useful for those outside the company (e.g. equity investors and financial analysts) as well as those inside the company (e.g. employees of the company).

Those inside are classified into two groups, and their main
interest in value added measures are presented below :-

Valid group	Interest in value added
i) Directors and line managers	Company economic performance, planning and monitoring capital and manpower productivity, unit costs.
ii) All employees	Economic performance and company prospects, remuneration in relation to company performance.

Added value has been recommended as a basis for employee
reward schemes. Cox (1978, p 135)traces the origin of such
schemes to the early thirties in the USA, when a trade Union
leader Joe Scanlon attempted to stabilise his company in the
then troubled business clime. He devised a plant wide
employment incentive scheme that shared the gains from
improvements in productivity with the workers, thus getting
them interested in improving productivity.

Discussion

Applications of value added in several studies have been
reviewed. The main advantage of using value added (over
other financial measure) is that products are counted only
once, eliminating double counting form intermediate
products, services or purchases. Also, value added is not
significantly effected by accounting policy about
depreciation, interest charges etc. because all these
factors, along with profit constitute value added. It is of
particular relevance to the retail segment of the market (as
discussed earlier) and for the travel agent as it measures

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his contribution to the products of the principals.

The value added based method is used in this study, and from financial information collected from travel agents, value added ratios are formulated and analysed. Value added has also been employed as a measure of output within the framework of the Efficiency Production Function (Farrell, 1957) that is the next productivity measure under discussion.

2.10.8 Efficiency Production Function

Above, the concept of value added was dealt with and it was emphasized that a firm transforms a given set of inputs to produce a given output, the value of which increases as a result of the prevalent state of technology. 'Production' is the actual process of transformation of input into output, with the output having a greater market value than the former.

For any production process, if Q is the physical quantity of output, and x_i the various inputs :-

$$Q = f(x_i) \qquad [\text{where } i = 1, 2, \_ \_ \_ \_ \_ \_ \_ n]$$

Q defines the maximum output obtainable from any defined value of x_i and is the current frontier which the best technology can attain. This relationship is described as a production function and links the volume of input to the maximum attainable output.

From this basic model M. J. Farrell (1957) formulated what is called the 'Efficiency Production Function'. He measures the technical efficiency of a productive unit, coupled this

with price efficiency to provide what he termed ´overall efficiency´. In presenting his paper Farrell criticises the traditional measure of labour productivity as an indicator efficiency. He deems it unsatisfactory in that it ignores all input except labour. He states that the purpose of his paper is to attempt to provide a satisfactory measure of productive efficiency (one which takes account of all input) and to show how it can be computed in practice by using an application to agricultural production in the USA.

The essential principle of this approach can be discussed using a simple case in which two factors of production - labour and materials - are used to produce a constant quantity of output for a number of firms (economies and diseconomies of scale are ignored for the moment). If the inputs of each firm can be represented on an isoquant diagram by a point, a scatter of points can be represented in a diagram as follows, in Figure 2.6.
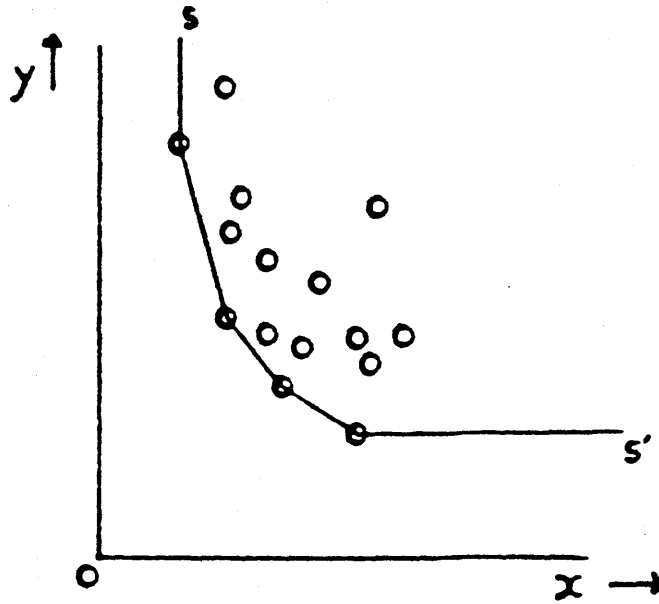
Figure 2.6   SCATTER DIAGRAM OF INPUTS
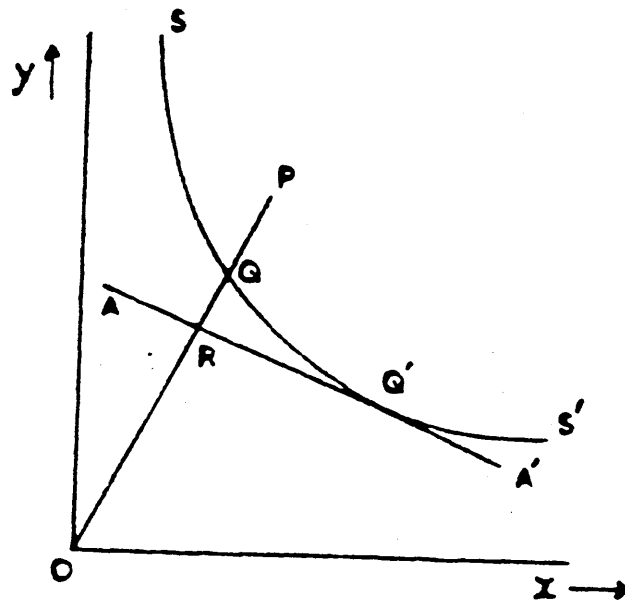
Figure 2.7   EFFICIENCY PRODUCTION FUNCTION ISOQUANT

Assuming constant returns to scale, Farrell gives the isoquant SS´ (Figure 2.7) to represent the various combinations of the two input factors that a perfectly efficient firm might use to produce unit output.

The isoquant SS´ is called the Efficiency Production Function and all points on the curve are said to be equally efficient. Point P (or a firm at point P) is said to be less efficient, since it requires more input than point Q for the production of the same quantity of output. Thus the more efficient firm represented by point Q produces the same output as P using only a fraction OQ/OP as much of each factor. It could also be thought of as producing OP/OQ times as much output from the same input. Farrell now defines OQ/OP as the technical efficiency of firm P.

Farrell then adds that a measure of the extent to which various proportions of input are used in relation to their prices. So AA´ in FIG 2.7 has a slope equal to the ratio of the prices of the two factors. Therefore Q´ and not Q is the optimal point of production, for while both points represent 100 % technical efficiency, the costs of production at Q´ will only be a fraction OR/OQ of those at Q. This ratio OR/OQ is termed the Price Efficiency of firm Q.

Now if the observed firm were to change the proportions of its input until they coincided with Q´ (with technical efficiency remaining constant) its costs would be reduced by a factor OR/OQ (as long as factor prices do not change). This ratio is then considered to be the price efficiency of firm P too.

In the event of the observed firm being perfectly efficient, both technically and in terms of prices, costs would be a

fraction OR/OP of what they actually are. This ratio is termed Overall Efficiency and is equal to the product of the Technical and Price efficiencies.

i.e. $\dfrac{OR}{OP} = \dfrac{OQ}{OP} * \dfrac{OR}{OQ}$

Farrell lists several uses that can be made of the established efficiency production function frontier. An obvious use would be to provide estimates of the marginal rates of substitution of pairs of factors at various points. Then, the comparison of two or more efficiency isoquants derived across different circumstances are an important usage. In an international comparison it is possible to compare the 'best practices' of various countries.

Farrell suggests that investigations of economies of scale could be got by deriving an efficiency isoquant for each size group of firms and comparing them. Finally, to investigate technological progress, efficiency isoquants are derived for an industry at different points in time and then compared.

Farrell's basic model represents the single -output two-input case. It must be noted however that this method can easily be extended to a multiple input single-output case or that involving single input-multiple output. Salter (1966) has used these two measures in his book on productivity and technical change. He uses the concept of the 'best practice' which is the one that employs the best upto date technique corresponding to the appropriate factor prices.

Discussion

Eilon and Soesan (1976) record two main shortcomings of Farrell's approach. Firstly it is not extendable in its simple form to the multi input, multi output case, which is the most commonly found in industry. Secondly they opine that serious theoretical and practical difficulties are encountered in constructing the efficiency production function except in very simple cases. However it can be demonstrated that the model can be operationalized for the single output, multi input case, which is what is needed for this study. Also, the second contention of computational problems have been overcome by the development and application of a Fortran77 program 'OPTSUR' that gives efficiency coefficients in four dimensions.

Jassbi (1979) mentions the main limitations of the approach as the total dependence of the efficiency production function on the 'best' firm. Any change in it will change the standard and this is of particular significance when there is a sharp rise in technical efficiency of the best firm with no change or opposite change in other firms. Easterfield (1961) taking into account all the limitations still advocates and supports the approach, and calls for a further exploration into the concept. The advantages of the approach are that multi input cases can be handled. Comparison of isoquants across firms, industries or countries is possible. Also the impact of technological progress is measurable by comparing efficiency isoquants derived from a firm or industry at different points in time (e.g. 'with' and 'without' the technology).

The main appeal of Farrell's approach is that it is production function 'free'. In other words there are no predetermined constraints or conditions on it. The criticisms of other forms of productivity measures (e.g. goal programming) was that constraints and conditions were to be preset to work the model. The efficiency production function approach computes productive efficiency from a series of observations, without assuming or specifying any preset standards or baseline.

2.11 MEASURING VALUE ADDED

The concept of value added and its suitability as a productivity measure for this study have already been discussed in the previous chapter. In this section various methods of measuring value added are discussed and the most suitable method in relation to the data available is explained in more detail.

2.11.1 METHODS OF MEASURING VALUE ADDED

Jassbi (1979) describes four ways of measuring value added. The methods are given by Taylor and Davis (1977), the British Institute of Management (1970), Wilson (1971) and Riddle (1975).

i) Taylor and Davis (1977) put forth this computation of value added :-

VALUE ADDED OUTPUT = (S + C + MP) - E

where   S = Sales
                C = Inventory change
                MP = Manufacturing plant
                E = Exclusion

By MP is meant all items produced internally and used

as part of machinery. The exclusion includes those factors externally purchased such as materials and supplies, as well as depreciation on buildings, machinery, equipment and rentals.

ii) This method was formulated and is used by the British Institute of Management (1970). The elements that make up value added are represented below:-

```
                    /‾‾                          ‾‾\
                   |   Profit                       |
                   |                                |
                   |   Depreciation                 |
                   |                               \  VALUE
                   |   Indirect Labour             /  ADDED
  SALES          /                                 |
  TURNOVER       \   Direct Labour                 |
                   |                             ‾‾/
                   |   Bought in goods and services
                   |
                   |   Bought in raw materials
                   \‾‾
```
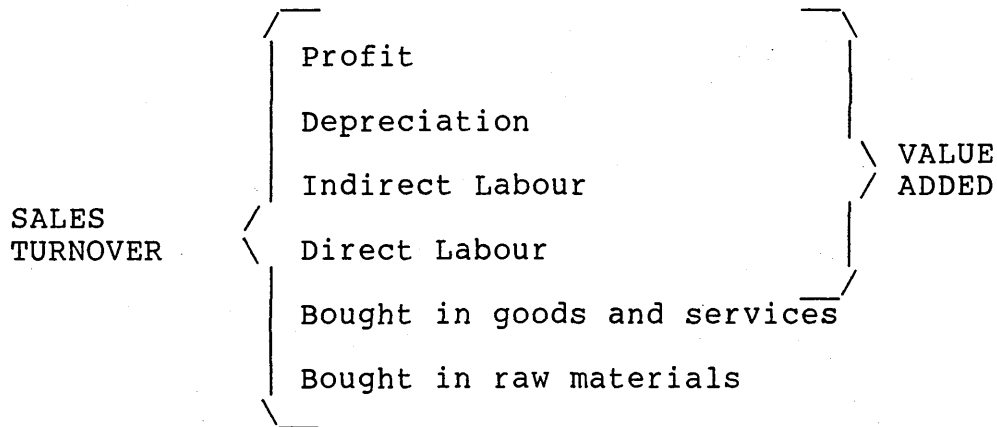
iii) Put forth by Wilson in 1971 this method computes value added from profit and loss accounts in two ways. The first is the subtractive obtained by deducting appropriate expenditure from sales. The second method is additive and is got by adding on remaining items of expenditure to profit. Both methods should give identical values.

(1) <u>Subtractive</u> <u>Method</u>

   <u>SALES</u>   less   <u>SUM</u> <u>OF</u> :-

              Raw materials
              Bought-out components
              Sub-contracted processing
              Consummable stores
              Loose tools
              Repair & maintenance of
                plant & machinery
              Heat, light and power
              Transport
              Production services
              Other purchased services
              Labour & overheads in work
              in progress & finished stock

(2) Additive Method

VALUE ADDED   as the SUM of :-

Pre-tax profit
Depreciation
Rent, rates and insurance
Wages and salaries
Employee benefits
Advertising
Professional services
Interest payable
Other overhead expenses

iv) This method describes the concept of value added side by side with the step by step computation.

Value added Concept

V A L U E A D D E D	MATERIALS
	PURCHASES consumable materials fuel,gas,electricity, sub-contracting, plant repairs etc.
	TOTAL COST OF HOURLY PAID LABOUR
	TOTAL COST OF ALL OTHER EMPLOYEES
	ALL OTHER OVERHEADS INCLUDING DEPRECIATION
	SURPLUS FOR INTEREST,TAX, DIVIDENDS, RESERVES

Value added : Determination

Actual Sales		A
Stock - Opening	B	
Closing	$\underline{C}$	D
Stocks to spares		E
		=
TOTAL SALES - ACTUAL		F
Selling price variation		$\underline{G}$
Adjustable sales (F-G)		H
Purchases* -std. cost		J
Purchase price variation		K
Work expenses		L
Tooling		M
Accruals -gas,phone etc		$\underline{N}$
TOTAL PURCHASES - ACTUAL (= J+...+N)		P
Purchase price variation		$\underline{K}$
ADJUSTED PURCHASES (P-K)		$\overline{Q}$
ADDED VALUE - ACTUAL(F-P)		X
ADDED VALUE-ADJUSTED(H-Q)		Y

Cox (1979) identifies three methods of computing value added, and these are explored in detail below :-

i) The Corporate Report method is the form suggested and used by the ICMA (1975). This method starts with the opening work in progress, deducts finished stock values, then adds on the various costs incurred in the period to determine the cost of sales. The cost of sales is deducted from sales to give trading profit. Value added is now calculated by adding together profit, depreciation and direct and indirect payroll costs. Or alternatively by subtracting the cost of materials / services input from Gross Output.

$$\text{VALUE ADDED} = \text{SALES} + \text{TOTAL INCREASE IN WIP \& STOCKS} = \text{GROSS OUTPUT} - \text{MATERIALS/ SERVICES INPUT}$$

ii) The Cost of Sales Method focuses on the cost of materials consumed on the cost of materials consumed in the sales as a key figure. This value can be computed when the content of stocks and work in progress can be analysed in terms of materials/ services and non-materials/ services. The latter are considered to be value added items.

$$\text{VALUE ADDED} = \text{SALES} - \text{MATERIALS CONSUMED}$$

iii) The National Accounts Method. In this approach Gross Output includes the capital value of items made for hiring out, the value of capital goods made for internal use, and a margin for profit on stocks and work in progress.

$$\text{VALUE ADDED} = \text{GROSS OUTPUT (Sales + Increase in stocks + Margin of profit on stock valuation)} - \text{MATERIALS}$$

2.11.2 PRODUCTIVITY RATIOS

The purpose of calculating productivity and in this case value added ratios is to check whether the company is on the ´right course´ or whether constructive action is to be taken. Ratios are dependent on data available. The Institute of Cost and Management Accountants (ICMA, 1975) describe three main groups of productivity ratios - the productivity

of labour, of materials, and of any other resource. Their

five principal measures were:-

i)   Output per man-hour.
ii) Operative hours per unit of production (number of hours
     for given output).
iii) Value added per unit of labour cost.
iv) Manpower equivalent (i.e. evaluating machinery and
     services in terms of manpower).
v)   Comparison of standard times with actual times (where
     consistent standards are set).

The British Institute of Management (BIM, 1978) recommends

that 'like be compared with like' and that productivity was

concerned with the utilization of resources producing given

output, rather than simply the rate at which input generated

output.

The Engineering Employer's Federation (EEF, 1977) explain

that to 'add value' (in this case specific to the

manufacturing sector) a company needs premises, plant and

equipment, raw materials and manpower. These are classified

as three main groups of input.

```
                          INPUTS
          /                  |                  \
         /                   |                   \
        /                    |                    \
       1                     2                     3

   INVESTMENT            MATERIALS              MANPOWER
```

INVESTMENT	MATERIALS	MANPOWER
Value of the fixed assets employed in buildings, plant, machinery,vehicles & investmentin work in progress & finished goods.	Cost of materials and bought-out components, cost of goods & services used in the production process.	Manpower time & resulting cost of employing people to design, make & sell company's products.

The costs of all three inputs are then related to value

added for any given time period, to give overall measures of

the efficiency of production of people, materials and money.

In other words ratios are computed that represent each of

the input factors and related output.

Westwick (1977) gives a hierarchy of ratios developed for the Centre for Interfirm Comparison. The first hierarchy used physical output as a component, while the second employed value added.

1	2
$\dfrac{\text{Operating Profit}}{\text{Operating Assets}}$	$\dfrac{\text{Operating Profit}}{\text{Operating Assets}}$
$\dfrac{\text{Operating Profit}}{\text{Physical output}}$	$\dfrac{\text{Operating profit}}{\text{Value Added}}$
$\dfrac{\text{Physical output}}{\text{Operating assets}}$	$\dfrac{\text{Value Added}}{\text{Operating assets}}$

Smallwood (1977) suggested six monitors for internal use within a company, four of which involve the use of value added ratios.

i)   Value added per £ of fixed assets (at current cost or value to the business).
ii) Value added per £ of production materials.
iii) Value added per production direct hour.
iv) Value added per £ of pay cost.

The Corporate Report (ASC, 1975) outlined ten ratios for inclusion in statutory accounts. These were all related to employee numbers or costs and were therefore called 'Employment ratios'. Five of the ratios have been recommended as productivity ratios (Cox, 1979).

i)   Sales per employee
ii) Average value added per employee
iii) Average pre-tax profit per employee
iv) Employee costs as a percentage of sales
v)   Employee costs as a percentage of value added

Of the ratios it may be noted that two of the five (i.e. ii and v) relate employee factors to value added. Cox (1979) also details nine main value added ratios. While cautioning that none of them is ´perfect´ he recommends a collective analysis of them so as to identify and complement their weak and strong points.

```
i)    Value added : Capital employed
ii)   Value added : Operating assets
iii)  Value added : Capital expenditure
iv)   Value added : Cost of capital consumed
v)    Operating profit : Value added
vi)   Value added : Sales
vii)  Value added : Number of employees
viii) Value added : direct hours
ix)   Value added : payroll costs
```

The authors stress that not all computable ratios are significant, and only suitable ones must be considered.

Five ratios or criteria are important to consider when choosing a productivity ratio :-

```
i)    Are the ratio´s component parts reasonably related ?
ii)   Is the ratio meauring something significant ?
iii)  What message is the ratio supposed to give ?
iv)   Is the ratio effected by inflation ?
v)    Who is it useful for ?
```

2.11.3 VALUE ADDED IN THIS STUDY

For this study an attempt to compute value added was made from travel agency balance sheets, profit and loss account, company information and records. However a sample of 50 travel agency records (chosen at random from Companies House) showed that just 6 % of the agents had all the information required to calculate value added. Most of them presented abbreviated account figures, that did not reflect staff numbers or costs, and other important elements of value added. Where the details were available, the

following method was used to obtain value added :-

TOTAL INCOME	Sales and other income	A
TOTAL COST	Cost of Sales: cost of bought in goods and services, employment costs	B ===
GROSS PROFIT	Including retained profit, tax, depreciation etc.	C (A-B)
EMPLOYEE COSTS	Wages and salaries + other employee benefits	D ===
	VALUE ADDED	E (C+D) ===

Since published records of travel agency financial information were unobtainable, to measure productivity in this study, a reliance was made on survey data. The travel agent sample who were surveyed in this research, were asked to fill in a page consisting of financial information. In a pilot study to test the questionnaire it was found that agents were unwilling to disclose their exact accounts figures. They were, in particular sensitive about revealing profit figures. However, all of them were willing to ´tick´ from a series of choices that gave ranges between where the figures would lie. As a result of this, the profit figure was added with depreciation, so that the agent could feel that the actual profits were ´disguised´. The final survey form collected information on 4 financial elements :-

A   Total Sales Turnover
B   Pre-tax profit + Depreciation
C   Total staff costs
D   Fixed Assets

Each element was clearly defined and there were thirteen ranges that the agent could choose from in each category.

The date of the company accounts were also requested, as this information would be used to convert the figures to constant prices (inflating using the Retail Price Index). The midpoints of the ranges were then obtained and value added was derived by the additive method :

VALUE ADDED = (B + C)

This measure was then compared to various other criteria to obtain productivity or value added indices or ratios.

2.12 <u>CONCLUSION</u>

From the foregoing discussion there are numerous solutions to the problems of measuring productivity in an enterprise ranging from purely physical to purely monetary, and from a simple ratio to an integrated model. It would be unrealistic to believe that any of these approaches alone is a master method and can be applied to all cases irrespective of size, nature of product and other characteristics of the firm. There are a wide range of solutions open to management and to researchers, each fixing priority to some elements, ignoring or under estimating the other elements of measurement. The chosen method must be based on the needs and possibilities of the firm in reference to their financial and technical limitations in providing good and comparable data.

For this study the value added based measure of output and productivity is chosen, and used within the framework of the efficiency production function, that computes the optimal usage of input to produce standard unit output. In the value added measure products are counted only once and it is not

influenced by accounting policy.

Farrell's concept and method of measuring productive efficiency has the appeal of being 'free', or without predetermined standards, multi input cases can be handled, technological change can be reflected as a determinant of the function, and interfirm and firm to industry comparison is facilitated via the use of several isoquants of production efficiency.

CHAPTER 3   THE TRAVEL AGENT

3.1   Introduction
        3.1.1 General overview of the Travel Industry
        3.1.2 General overview of Chapter

3.2   Choice of the Travel agent as the unit of study

3.3   Dimensions of the UK travel market
        3.3.1 Sources of Data
        3.3.2 The Market

3.4   Historical perspective

3.5   Components of the Travel Industry
        3.5.1   Major Principals
        A Transport   1.1   Airline industry
                       1.2   Rail industry
                       1.3   Other transport
        B Tour wholesalers
        C Accommodation
        3.5.2   Minor Principals

3.6   Distribution Channels in Tourism
        3.6.1   Marketing defined
                        1.1   Definition
                        1.2   The Marketing Mix
        3.6.2   Distribution Channels
                        1.1   Definition
                        1.2   Need for a Channel
                        1.3   Tourism intermediaries
                        1 Advantages
                        2 Disadvantages
                        · 3 Direct Sell

3.7   Travel Agency remuneration

3.8   Travel Agency Location

3.9   Travel Agency Advertising and Promotion

3.10   Travel Agency Services

3.11   Travel Agency staff

3.12   Travel Agency clientele

3.13   Travel Agency technology

3.1 INTRODUCTION

3.1.1 GENERAL OVERVIEW OF THE TRAVEL INDUSTRY

The business of tourism encompasses various and varied
sectors and activities in its functioning. It involves a
"series of economically related businesses - travel
retailers, railroads, rental cars, airlines, cruise ships,
hotels, restaurants" (Lundberg,1985, pp 3). Metalka (1980)
in the Dictionary of Tourism offers the following definition
for the phenomenon of tourism and its industry :

- "An umberella term for the variety of products and
  services offered and desired by people while away from
  home. Included are restaurants, accommodation,
  activities, natural and manmade attraction,travel
  agencies, government bureaus, transportation. Includes
  an awareness that this myriad of products and services
  are interrelated and interdependent."

Lundberg (1985) sees the tourist industry as consisting of 3
groups, interdependent and symbiotically linked:-

1 TRAVEL ORIGINATORS	2 PUBLIC CARRIERS	3 FOOD AND LODGING
Travel Agents Tour bookers Tour operators	Airlines Railways Buses Shipping	Hotels Motels Condominiums

Fremont (1983, pp 2) stresses the high human involvement in
describing the travel industry as a "large network of
people, interacting at various levels to keep the flow of
passengers moving safely and happily in a minimum amount of
time." As also Stevens (1985 pp 4) who sees the tourism
industry as an "impressive example of human co-operation."
Since the travel industry encompasses so many different

services or products from different producers or suppliers, required by the customer at one time, several writers opine that the need for an agent or retail intermediary is great. The ´travel agent´ who offers to the customer the component travel services on behalf of the providers (travel principals) under one roof, does just this. The travel agency network and distribution system has been described as the glue that holds the industry together, and without them the industry is visualised as becoming "utterly chaotic" (Stevens, 1985, pp 5). Fremont (1983) sees a travel agent as a ´double agent´ in that he acts both on behalf of the principal and the customer.

3.1.2 OVERVIEW OF CHAPTER

This study looks at the productivity of labour in travel agencies. It is important to have a clear view of the different sectors of the industry in which the travel agent is an intermediary, as well as the general travel patterns and demand, that directly influence travel agency business. This chapter starts with a brief outline detailing the rationale for choosing the travel agent as the focal unit of the study. The next section presents a general overview of the British travel trends, to put into perspective the dimensions of the market in which the travel agent functions. A brief overview of the history and origins of the travel agent is followed by a discussion of the different components of the travel industry and the services and products they sell.

Section 3.6 examines the marketing concept of distribution,

and distribution channels and puts into context the role of the travel agent as a distribution intermediary. The subsequent sections detail various other aspects of travel agency behaviour. Since the study of automation is a focal point of this thesis, Section 3.13 is dedicated to the usage and explanation of systems used by travel agents.

3.2 CHOICE OF THE TRAVEL AGENT AS THE UNIT OF STUDY

The reasons for choosing to concentrate on the travel agent and his labour productivity and determinants are several. Firstly, my own work experience in a multiple travel agency, and then with the GSA (General Sales Agent) of an airline (Thai and SAS) prompted questions relating to agency behaviour, and its link with the travel industry and its market. The multiple I worked with had no CRS or viewdata system and the only forms of communication for reservation, information etc. with principals was via letter, telex, telephone or courier. On an average 80% of business handled was from corporate accounts, and all client records and accounting information was maintained on hand-filled forms and ledgers. The company was examining the feasibility of introducing an automated financial and management information system (in 1983) and staff were asked their opinions on the matter. While a few were vary of the introduction of computer systems, (main reasons being lack of knowledge and familiarity, threat to jobs, fear of misuse and loss of confidentiality, fear of losing information and not having written back-ups) the majority were optimistic of the benefits of increased efficiency and labour productivity from its use.

The Airline GSA had a CRS system, and while availability and schedule displays as well as freesale were offered, ticketing, itineraries, fares, as well as all accounting procedures were done manually. Questions arose as to whether automation would really overcome problems from manual procedures and telephone communication, and indeed effect labour productivity.

Secondly, several recent articles have warned about the possible downfall in the importance of British travel agents caused by a variety of factors. As far back as 1973, Young (1973) warned that of the various components of the travel industry the then 1500 travel agents were the most vulnerable and most dispensable sector. Contenders like him point out the potential of new information systems, the dangers of direct sell, increased numbers of experienced travellers (who do not need advice or travel counselling), alternate forms of travel retailing (mail order, department stores etc.) as reasons for even the possible extinction of travel agents in the future.

It has also been contended by many writers that the majority of travel agents are unproductive and with low profit margins. For instance Mayhew (1984, p 49) makes the following observation about the UK travel agency sector -"It is dominated by small businesses, and while some are highly effective and profitable, the vast majority are thought to be relatively unproductive and lacking in innovation."

As part of this study financial records of a sample of travel agents were analysed at an initial stage (results are presented in Tabular form in Table 3.1), and the trend revealed was one of low profit margins. This prompted

interest in travel agency profitability and productivity and reasons to explain this trend, as well as a picture of travel agent's profitability across the country was sought.

Table 3.1   Analysis of Travel Agency Profitability 1986

	COMPANY	PROFIT MARGIN %
1	AA Travel	0.5
2	Althams	0.75
3	Britannic	0.5
4	Cadogan	0.75
5	Dumas	(0.14)
6	Mark Allan	0.3
7	Peltours	2.2
8	Pickfords	5.9
9	Travel Centre Norwich	(1.7)
10	Woodcock Travel	0.34

Source   Compiled from Financial Records of the Companies from Companies House in London

Fourthly, the travel industry was going through important developments in the field of Computer Reservation Systems, concerning both airlines and tour operators. The American Airlines SABRE system had been introduced in UK travel agencies, and it was seen as a threat to existing UK systems (e.g. TRAVICOM). In an attempt to compete in the CRS race two European consortia were formed, AMADEUS and GALILEO, each funded by different groups of airlines. Further, tour operators like Thomson Holidays announced that they would accept bookings from travel agents ONLY via CRS, and not via the telephone. Estimates indicate that up to 75% of Airline sales are booked via the travel agent. Research into the impacts of automation reveals that agents are able to provide a more accurate, reliable and speedier service, and increase volume to record higher turnover and profits

(Smithyman 1985). An interest was generated (as a result of the developments detailed above) in the present usage, applications and penetration of systems, as well as the impacts of the technology on travel agency profits and functioning, and its implications for the future.

3.3 DIMENSIONS OF THE UK TRAVEL INDUSTRY

The basic premise of marketing (of which distribution is a component) is the expression of supply as a function of demand, in other words demand is seen as the ´controlling force´ over supply (Baker,1983). The nature and magnitude of the existent demand is therefore the basis for a business, and what the travel agent ´supplies´ and the income it generates is dependent to a large extent on demand (EIU, 1968). Fremont (1983) opines that "while the staff is the agency, the client is the business." In other words the travel agency serves the client or public at large, representing their market. Market demand in tourism is thought to be effected by several factors including personal disposable incomes, exchange and inflation rates, education and awareness of population, leisure time available and the demographic profile of the market (Middleton,1986; Edwards,1987). This section examines the travel patterns and trends of the UK travel market, in order to provide a ´back drop´ against which the travel agent can be studied.

3.3.1 SOURCES OF DATA

Three main sources of data have been utilised to study the characteristics of the UK travel market - outbound, inbound and domestic. The International Passenger Survey is an

annual sample survey of passengers arriving and departing at UK air and sea ports. Details on expenditure patterns, volume and purposes of visits, main origins and destinations, mode of transport, type of tour (inclusive or independent etc.), are useful in assessing the volume and nature of the UK outbound and inbound market. The BTS-Y is an annual survey undertaken by the British Tourist Authority sampling domestic and overseas holidays, and is a good source of market profile and visitor behaviour data. The BTS-M published by the English Tourist Board provides limited data on the UK outbound market.

The Civil Aviation Authority (CAA) is the best source of data on air travel and on tour operator's activities. Through its scheme of awarding Air Travel Organisers Licenses (ATOLs) the CAA control and monitor the volume of tour operators activities. Other sources from which statistics have been compiled are detailed as follows. British Ports Authority (BPA) and Passenger Shipping Association (PSA) are useful sources for sea travel. The Department of Transport's annual Transport Statistics Great Britain gives general statistics indicative of the size and nature of transport operations.

ABTA's data on member's financial details, staff, technology usage are not provided for public use so as to maintain confidentiality. Data on the number of ABTA members, the break-up of agents/tour operators, geographical spread of agents and number of outlets have been compiled from ABTA's membership list. Other occasional reports, ITQ and WTO releases, have also been used, and sourced within the text.

3.3.2 THE MARKET

The percentage of British adults taking a holiday is relatively high, with 58% taking atleast one holiday in 1985. Of these, holidays abroad dominate, with only half as many holidays to domestic destinations, as presented in Table 3.2.

TABLE 3.2   INCIDENCE OF HOLIDAYTAKING BY BRITISH ADULTS

	1982 %	1983 %	1984 %	1985 %
One holiday	59	58	61	58
No holiday	41	42	39	42
Abroad	43	42	44	41
Domestic *	22	23	24	23

Source :   BTS- Y, 1984
           * Great Britain and Ireland

The number of visits abroad by UK residents has grown rapidly since 1980 as shown in Table 3.3 as also related expenditure (in constant 1980 prices).

Table 3.3   Volume & Value of total UK tourism outbound

Year	Visits abroad '000	% change over previous year	Expenditure (constant 1980 prices) £ '000
1980	17,507	13	2,739
1981	19,046	9	2,931
1982	20,611	8	2,901
1983	20,994	2	3,014
1984	22,072	5	3,095
1985	21,771	-1	3,176

Source : International Passenger Survey, Department of Transport

Holiday travel dominated the main purpose of visit in all three markets. Business travel was highest on inbound visits (20.9%), while Domestic travellers were the highest group who visited friends and relatives (20%). The main purpose of visit for the three groups is below in Table 3.4.

Table 3.4   Main Purpose of Visit   1985

Purpose of Visit	UK Inbound 000s	%	UK Outbound 000s	%	Domestic 000s	%
Holiday	4716	32.6	6380	29.5	11880	36.0
IT	1950	13.5	8518	39.4	6600	20.0
Business	3014	20.9	3188	14.8	5940	18.0
VFR	2880	19.9	2628	12.2	7260	22.0
Miscellaneous	1890	13.1	896	4.1	1320	4.0
	14449	100.0	21610	100.0	33000	100.0

Source   Inbound / Outbound figures from IPS Survey 1985
          Domestic figures from BTS-Y Survey 1985

UK outbound as well as inbound travellers favour air as the mode of transport as compared to sea, with a ratio of nearly 2:1 in 1985 (Table 3.5).

Table 3.5   Main Modes of Transport Used   1985

Mode of Transport	UK Inbound 000s	%	UK Outbound 000s	%	Domestic 000s	%
Air	9413	65.1	13732	63.5	-	-
Sea	5086	34.9	7878	36.5	-	-
Car	-	-	-	-	23100	70.0
Coach	-	-	-	-	4620	14.0
Train	-	-	-	-	3300	10.0
Other	-	-	-	-	1980	6.0
	14449	100.0	21610	100.0	33000	100.0

Source   Inbound / Outbound figures from IPS Survey 1985
          Domestic figures from BTS-Y Survey 1985

Several establishments are used by tourists for accommodation, and the breakdown of the main types used follows in Table 3.6.

Table 3.6   Main Types of Accommodation Used   1985

Type of Accommodation	UK Outbound %	UK Domestic %
Hotel/Motel	59	19
Friends/Relatives	16	23
Caravan	–	21
Camping	3	10
Rented villa/apartment	17	13
Own house/villa	5	1
Other	–	13
	---	---
	100	100
	===	===

Source   BTS-y Survey 1985

Tourism as an industry is affected by seasonal demand patterns. Since the travel agent essentially sells the tourist product, his business too has peaks and troughs varying by seasonality. Table 3.7 gives the pattern of seasonality affecting tourist movements.

Table 3.7   Seasonal Distribution of Tourist Movements 1985

Month	UK Inbound		UK Outbound		Domestic	
	000s	%	000s	%	000s	%
May	1282	8.9	1661	7.6	2640	8.0
June	1467	10.1	2300	10.6	4950	15.0
July	1823	12.6	2293	10.5	6930	21.0
August	2145	14.8	3172	14.6	8250	25.0
September	1451	10.0	2849	13.1	4290	13.0
October	1141	7.9	2064	9.5		
November	804	5.6	1435	6.6		
December	811	5.6	1022	4.7		
January	824	5.6	1056	4.8		19.0
February	656	4.5	883	4.0		
March	872	6.1	1384	6.4		
April	1207	8.3	1653	7.6		
	14483	100.0	21771	100.0	33000	100.0

Source   Inbound / Outbound figures from IPS Survey 1985
------   Domestic figures from BTS-Y Survey 1985

3.4 <u>HISTORICAL</u> <u>PERSPECTIVE</u>

While representatives undertook the organisation of religious travel as early as Medieval or even Roman times, it might be pedantic to trace the origins of the modern day travel agent so far back. Several different developments traced from the 19th century, have been considered here as forerunners of the present day travel agent. The Immigration Agencies of the early 19th century are thought to be predecessors of todays travel agent. They organised mass transport carriers to cater for the large migrant flows. Their main role was that of a liaising and facilitating intermediary between the migrating populus and the passenger shipping lines. By the mid-19th century their business activities expanded and they offered other travel services, including organising travel themselves (Yacoumis, 1973).

In 1822, Robert Smart of Bristol emerged as the first steamship agent booking steamers to Bristol channel ports and Dublin. These steamship agents also diversified and expanded the services offered, and is also thought to be a forerunner of the contemporary travel agent. The origin of the retail travel agent has also been linked to haulage firms operating in the nineteenth century. Faced with the threat from increased railway services, passenger transport firms began to act as booking agents for the railways and shipping lines, for instance Pickfords.

It is thought that retail travel activity emerged and multiplied following early forms of tour operation in the late nineteenth century. Some authors (Yacoumis, 1973) stress that the earliest established travel agents first

started as wholesaling or tour organising companies, rather than as mere retailers of other principals services. While many writers quote Thomas Cook as the first travel retailer they emphasise that Cook was primarily a tour organiser, several years before actually becoming involved in overall travel retailing. (In 1872 Thomas Cook and Son took the first group of tourists round the world). Cook's early competitors like Dean and Dawson (.1871), John Frame (founder of Frames Travel and Tours, 1881), Sir Henry Lunn and Robert Mitchell (founders of Lunn Poly they first organised tours in 1881 and 1892), and J.W. Eason (founder of Easons Travel) had one feature in common. They all had their 'raison d'etre' as the organisation of group trips, and the retailing function gradually emerged and developed from this.

Thomas Cook's in 1877 are thought to have appointed the first sub-agent, offering a 2.5 % commission on their tours. Other agents are thought to have followed suit. A lack of data on the British travel trade from the late nineteenth century to post-World war II, prevents an assessment of the then development of the travel agency sector. It was thought that retail travel trade in this period was relatively small, as travelling for pleasure was drastically reduced following the disruptive effects of the Second World war on the social life of the UK and continental Europe.

Holiday travel on a mass scale is thought to be a phenomenon of the post-war period, and one that gathered real momentum in the sixties. The development of civil aviation in this

era was an important influence, and the advent of air inclusive tours in Britain is thought to have changed the structure and economics of the retail travel agency and the travel trade. The Airlines became major competitors to the rail, road and shipping companies, and the latter were reluctant to service a rival's operations through their offices. Travel agencies arose to sell impartially under one roof, the services of all transport systems and later accommodation, to the consumer.

These travel 'brokers' then consolidated their positions by adapting to the advances in communication systems with the use of telegraph, telephone, telex and more recently computer systems, developed by the principals whose products the agents retail. Other developments thought to be 'technological innovations' that have stimulated travel in general include the introduction of travellers cheques (1891), and photography which introduced photo journalism and incepted the concept of promotionary materials like brochures.

3.5 COMPONENTS OF THE TRAVEL INDUSTRY

Lundberg (1985) describes the tourist business as a series of economically related businesses - travel retailers, railroads, rental cars, airlines, cruise ships, hotels, restaurants - that share many of the same characteristics. To gain a better and fuller understanding of the travel agent's business and role it is vital to understand the nature of the component industries that he represents. This subsection looks at the main businesses that the travel

agent serves, or the travel principals. A travel principal is here defined as the original provider of a tourist service, such as a hotel, an airline, a tour operator, or a shipping company (Burkart and Medlik, 1981).

The journeys and stay of tourists give rise to a demand for a wide range of services in the course of the journey and stay at destinations. Burkart and Medlik (1981) view passenger transport as a vital service required, providing the tourist the means to reach the destination and also the means of movement at the destination.

3.5.1 MAJOR PRINCIPALS

A TRANSPORT

1.1 Airline Industry

Of the passenger transport services in the tourist industry, the airline business dominates on long-haul routes and has also gained importance on medium-distance routes. World travel is considered to be the third largest element in world trade earnings, behind energy and the car industry. Global air travel is forecast to grow on average by 6 % per year, in both leisure and business segments, to about 2 billion passengers by the turn of the century (Feldman, 1989). International Air traffic trends on scheduled and non-scheduled airlines has shown a notable increase since 1983, as Table 3.8 indicates.

TABLE 3.8   International passengers carried by scheduled
                and non scheduled airlines   1980 -1985

	Scheduled services	Change %	Non-scheduled services	Change %
1980	14964		12458	
1981	14761		13348	
1982	13540	+5.5	14462	+26
1983	13219		15584	
1984	14293		17674	
1985	15838		16836	

Source   Civil Aviation Authority

For the UK, air is the predominant mode of travel both for
holiday and business purposes.   Table 3.9 below gives the
split of air and sea travel used for inbound and outbound
travel from the UK, to establish the large share of air
travel.

Table 3.9   Inbound and Outbound Travel by Mode of Travel
                 1984-1987

	Inbound					Outbound				
	Total (100%)	Air Nos.	%	Sea Nos.	%	Total (100%)	Air Nos.	%	Sea Nos.	%
1984	13644	8515	62	5129	38	22072	13934	63	8137	37
1985	14449	9413	65	5086	35	21610	13732	64	7878	36
1986	13844	8788	63	5056	37	25181	16495	66	8686	34

Source   International Passenger Survey 1987

According to Stevens (1985, pp 26) - "being able to sell
airline tickets makes it possible for a travel agent to
exist."   Travel agents receive commissions for the travel
services they sell, and revenue from airline sales
constitute a large part of agency turnover.   Airlines

commission to agents may be fixed and/or negotiated. (Discussed further in Section 3.7 on Agency remuneration). Fremont (1983) mentions two types of working associates a travel agent deals with most often in an airline. First are the telephone reservation agents ("res agents" in industry jargon) who deal with matching travel agent's requests with available space. With the increasing introduction of CRS in travel agencies, res agents are now called less often for routine reservation or availability requests, and more for special requirements. Secondly "airline reps" or airline representatives represent their airline with all travel agents within a specified area. Their job is to increase the airline's business, and they can advise agent's on fares, schedules etc. as well as provide promotional material. They can also be responsible for negotiating override commissions, and advising agents about incentive schemes, updates in schedules and services, training courses and provide technical assistance.

1.2 RAIL INDUSTRY

Domestic rail transportation is operated by British Rail (BR). Agents who want to be appointed as a BR agent, need to satisfy certain criteria and obtain a license for the sale of BR tickets. BR would take into account the proximity of other BR-appointed agents or Railway stations, the nature of the business, (e.g. if the agent's business was largely in a conflicting interest like long-distance coach travel) and the level of premises and staff. In addition BR would specify a minimum level of turnover, and expect agents to

take out a fidelity bond or banker´s guarantees.

1.3 OTHER TRANSPORT OPERATORS

Other transport operators within the travel industry include coach operators, car and coach hire, shipping companies and cruise companies. Car reservation agents will offer the various types of car rentals available and describe costs, insurance and any particular packages and incentives.

B   TOUR WHOLESALERS

UK tour operators took an estimated 10 million package holiday makers abroad in 1986, up 1.7 million over the previous year (Fitch 1987). The tour operator is considered to be the mainstay of travel agency income (Saltmarsh, 1986) and this principal´s role and nature are now detailed.
Lundberg (1985) describes the tour operator as one who puts together package tours of various prices, lengths and purposes, assembled by direct negotiation with airlines, shipping lines, hotels, restaurants and other travel-affiliated services. Even though the tour operator uses the services of other travel principals, his function and nature is quite different from the travel agent´s retailing role. Yacoumis (1973) points out that the tour operator, in so contracting and combining the individual suppliers, produces a complete product rather than just resell ´pure´ elements of the tourist product. It is possible to split tour operators into tour operators who both retail and wholesale tours, and those who strictly perform a wholesaling function. Mill and Morrison (1986) reserve the term tour

wholesaler for a tour operator who strictly handles the operation of the tour and does not sell directly to the public.

The tour operator business can be further classified into the Air tour, Sea tour and Coach tour operators, and some operators may operate tours using combined modes of transport. About 90% of all foreign package holidays are sold through travel agents with the balance being sold directly to the public (Fitch, 1987).

C   ACCOMMODATION

The Development of Tourism Act of 1969 defined tourist accommodation as "hotels or other establishments at which sleeping accommodation is provided by way of trade or business." This is a very general definition, but the Standard Industrial Classification of 1980 is more specific about the different aspects of the accommodation sector. Under Hotel trade it categorised licensed premises and unlicensed premises, including hotels, motels and guest houses. Other tourist or short-stay accommodation included camping and caravan sites, holiday camps, youth hostels, conference centres and private rest homes. The English Tourist Board (1985) view tourist accommodation under two categories of serviced, and self-serviced accommodation :-

Serviced   includes accommodation in licensed and
                    unlicensed hotels, guest houses, paying
                    guests in private houses and serviced
                    holiday camps

Self-serviced   includes rented accommodation, camping,
                    caravans, self serviced holiday camps, and
                    boats

To regulate and control geographical spread and development of accommodation, schemes exist to register, classify and grade tourist accommodation. A registration scheme results in a comprehensive inventory of accommodation which can be kept up-to-date. A classification scheme seeks to present information about tourist accommodation in a form which would enable the user to find the information he requires easily and quickly and to be able to compare like with like. A grading scheme provides qualitative judgements on the amenities and facilities of establishments, often identified by numbers, letters or symbols.

B   MINOR PRINCIPALS

While transport operators, tour wholesalers and the accommodation sector comprise the major protagonists of the travel and tourism enterprise, agents also liase with other minor principals. These include those providing auxiliary services like passport and visa processing, theatre tickets, catering and restaurant operators, guide services etc.

3.6 DISTRIBUTION CHANNELS IN TOURISM

The travel agent as his very name (´agent´) suggests acts on behalf of the travel principal or principals that he represents. In the overall marketing structure of the travel industry he has been variously termed - the distribution intermediary, the middleman, the distribution channel. This brings the focus of the following section to discussing the fundamentals of marketing, its important component - distribution, and the distribution channels that perform the

distributory functions.

3.6.1 MARKETING DEFINED

1.1 DISCUSSION

Section 3.1 described the travel industry as one with several and varied components. The manufacturer or producer of travel services, in other words the travel principals are concerned with the marketing of their services to the final consumer. To get the producers of the services to the final consumer requires the use of a distribution channel. It would be apt here to define marketing as is most suitable to this study.

There is no single universal definition of marketing. Crosier (1975) for instance reviews over 50 definitions classifying them into 3 groups :-

a) Where marketing is a process enacted via the marketing channel connecting the producing company with its market.

b) Where Marketing is a concept or philosophy of business.

c) Where Marketing is an orientation.

Assuming the travel agent's role is that of a retailer, the definitions in the first group would be most apt, in that they describe the channel that links the manufacturer with the end user. (One of the areas explored in this thesis is the definition of travel agent's role in the industry - is he a mere retailer of other's product or does he manufacture his own products ?) The second group of definitions refer to the attitudes or a course of business thinking that determines the relevant marketing process. The final group brings into focus the consumer as the starting point for

marketing activities to be oriented towards.

For the purposes of this study, all three groups of definitions are relevant, and the BIM definition (1978), taken together with White's (1980 p 22) customer oriented definition have been selected as most suitable.

i) "Marketing is the management function which organises and directs all those business activities involved in assessing and converting purchasing power into effective demand for a specific product or service and in moving the product or service to the final consumer or user so as to achieve the profit target or other objectives set by the company."

ii) "The idea of marketing is that a business ought as far as possible to start with its customers, and it should gear all its efforts to giving the customers what they want - at a profit ofcourse."

The first definition reiterates that marketing involves a whole range of activities (of which distribution is a part), and the second, the customer oriented nature of a business, both stressing that the company objectives must be met.

1.2 The Marketing Mix

The goal of marketing is the matching of segments of supply and demand (Alderson, 1964). Bates and Parkinson (1974) describe four groups of activities that relate to demand, from which marketing activities stem :

i) Analysis and forecasting
ii) Product development and design
iii) Influencing of demand (advertising etc.)
iv) Service (includes distribution)

A combination of marketing functions based on these four demand ingredients make up what is termed 'the marketing mix'. The marketing mix refers to the apportionment of effort, the combination, the designing and the integration of the elements of marketing into a program or 'mix', which on the basis of an appraisal of the market forces, will best

achieve the objectives of an enterprise at a given time (Borden, 1968). Baker (1983) lists seven ´mix variables´ consisting of market research, product development, pricing, packaging, distribution, advertising and sales promotion, and selling and merchandising.

Kotler (1984) describes the ´marketing mix´ as the amounts and kinds of marketing variables the firm is using at a particular time, consisting of five main elements :

i)   Product
ii) Price
iii) Sales Policy
iv) Distribution
v)   Promotion

Buttle (1986) uses distribution synonymously with the third of the Marketing P´s - Place (the other three being Product, Price and Promotion). The distribution function is examined in hospitality management in two dimensions: the marketing or distribution channel, and physical distribution.

3.6.2   DISTRIBUTION CHANNELS

1.1 DISCUSSION AND DEFINITION

George and Barksdale (1974) warn of the definitional problems about distribution activities in the service industries, as they do not distribute tangible products. There have been numerous discussions in marketing literature on the difference between ´products´ and ´services´ (or physical objects and intangible ones) and their marketing. The clarification and proof of this conflict is beyond the scope of this research and the term product or service in this study, will be defined here as anything that can be offered to a market for attention, acquisition, use or consumption that might satisfy a want or need.

Yacoumis (1975) sees distribution as one of the main marketing functions, and defines it as the activity involving the movement of a product or service from the producer or provider to the final consumer or user. Livesey (1979) sees distribution as the activities taking place between the processes of production and consumption of goods and services, while Shafto (1977) considers distribution as an inherent part of the production process itself.

Bucklin (1966) defines a channel of distribution as comprising of a set of institutions which perform all of the activities or functions utilised to move a product and its title from production to consumption. McIntosh's definition (1979) implies that the distribution channel satisfies a twofold purpose - that of supplying information to the potential traveller and so enabling choice, and following it up with the necessary reservations and other procedures :

> "A Distribution channel is an operating structure, system or linkages of various combinations of travel organisations through which a producer of travel products describes and confirms travel arrangements to the buyer."

1.2 NEED FOR A TOURISM DISTRIBUTION CHANNEL

The travel industry has been examined and each of its component elements discussed. Basic marketing theory, the distribution function and distribution channels have been defined. This section explores the needs for a distribution channel in general, and why it is of special relevance to the tourism sector. The purpose of distribution is to establish a link between supply and demand, producer and consumer. This is done directly, or via sales intermediaries (individuals or businesses that operate between the producer and consumer) as is the rule rather than the exception in

tourism (Hodgson 1987).

Welburn (1987) gives nine 'tasks' performed by distribution
in satisfying customers, and company marketing objectives :

i)   Demonstration enables the customer to find out about
      the product easily, inspect it, test its performance,
      gather supporting information and literature.

ii)   Comparison involves the assembling together of similar
      products from several suppliers, enabling the consumer
      to make comparisons and exercise choice.

iii) Parallel purchases offers the consumer the convenience
      of one-stop shopping by assembling together different
      but related products.

iv)   Merchandising refers to the activity that adapts and
      packages the product to meet the particular needs of
      local consumers or their target market.

v)   Breaking bulk enables the customer to buy just what he
      needs, leaving producers to handle the large volumes.

vi)   Selling involves the channel seeking out the buyer and
      selling to them, bringing local finesse to selling,
      pricing, promotion, advertising, and credit decisions,
      and offering the reassurance of its own local
      reputation and accountability to back the product.

vii) Stockholding implies the stocks held in the pipeline
      financed by the channel, making the product readily
      available to consumers.

viii) Access as a distribution function offers the customer
      a convenient local point of purchase, and spares the
      producer from handling a multiplicity of retail
      transactions around the world.

ix)   Physical distribution bridges the geographical gap
      between the consumer and producer, delivering the
      goods.

These nine distribution tasks vary in importance according
to the product principal who is initiating the distribution.
Welburn further extends his analysis and provides the list
below that prioritises these distributive functions in the
context of business travel agents, and leisure agents who
are retailing or operating inclusive tours.

Product intermediary	Business tvl retailer	Leisure tvl retailer	wholesaler
1. demonstration	none	high	high
2. comparison	high	high	none
3. parallel purchases	high	none	high
4. merchandising	none	none	high
5. bulk-breaking	none	none	high
6. selling	none	some	high
7. stockholding	none	none	high
8. convenient access	high	high	none
9. physical delivery	none	none	none

It is interesting to note that access is ´high´ as a priority for both business and leisure retailers, but of low consequence to wholesalers. The deduction to be made from this difference is that wholesalers or the travel principals depend on their retail network, and while their own accessibility is not crucial, that of their retail network is. Both types of retail agent also had a high comparison priority meaning that they required products from many different principals to offer the variety to the client in order to allow them to compare and choose between products.

1.3 Intermediaries in Tourism Distribution

Direct distribution occurs when the producer sells directly to the consumer; indirect distribution is when the sale to the consumer is made through an intermediary. Mill and Morrison (1985) classify three types of intermediaries in tourism:

i) The tour wholesaler who is defined as a business entity which consolidates the services of airlines or other transportation carriers and ground service suppliers into a tour which is sold through a sales channel to the public (Touche Ross & Co., 1976). He is involved with the planning, preparing, marketing, reserving and operating aspects, and sells via retail outlets.

ii) Retail travel agents are the businesses or people who handle the actual sale of tours, air tickets, and other travel services to the consumer and is compensated by the supplier or wholesaler for sales made.

iii) Mass Outlets include travel sold through supermarkets, lottery kiosks, television/computer systems, and other retailers and businesses (e.g. bookshops, banks).

Figure 3.1 is a representation of the Tourism Distribution systems, and the related intermediaries.
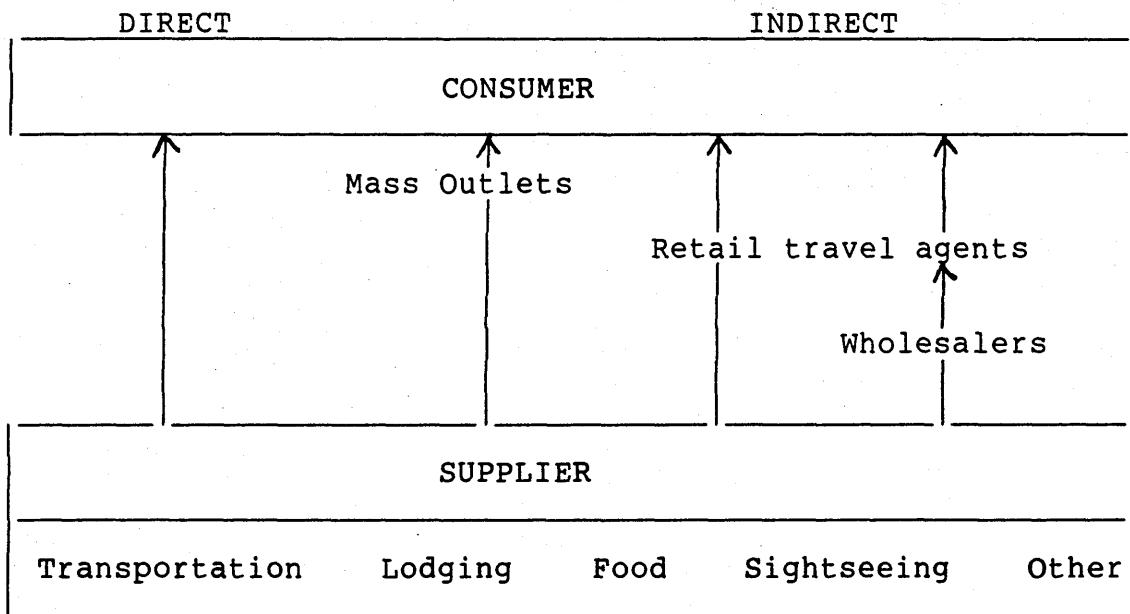
Figure 3.1 : Tourism Distribution System
              (Adapted from Wahab et al (1976), p. 101.)

1.4.2 Advantages

Baker (1983) summarises the advantages of using a distribution intermediary under three headings :

i)   Cost advantage
ii) Coverage
iii) Provision of service

Kotler (1984) reaffirms the cost advantage and the wide access to markets using distribution intermediaries. He mentions two additional advantages that are highly relevant to the travel industry. Firstly, direct marketing would require many producers to act as middlemen for the complementary products of other producers, so as to achieve mass distribution economies. The travel industry consists

not of one well defined product, but of many different services, sometimes competing and often complementary. For instance an airline, who is a travel principal, might need to offer parallel services of other travel principals (e.g. hotels, car hire companies etc.) as required by the client. The second, which could be categorised as a cost advantage, is that the principal has returns from investing into the ´main business´. Kotler explains that even where the producers can afford their own channels (i.e. outlets owned by them) often a greater return can accrue from investing more in the main business, than from returns from retailing. He stresses here that the middlemen, their contacts, experience, specialisation and scale of operation make products widely available and accessible to target markets much more efficiently than the producer.

The WTO undertook research into Tourism distribution channels and give five reasons to explain why ´direct distribution´ (i.e. without a distribution intermediary) is not feasible in the tourism industry.

i)   Selling directly to the final customer requires sales offices in carefully chosen locations, trained sales staff and sales managers.

ii) The cost of sales offices, salaries and other selling expenses will have to be borne even if the sales volume is not sufficient to cover them.

iii) It would be necessary to cover a more or less important number of markets, often located far away. This creates additional problems of planning, co-ordination, communications and control.

iv) Different market conditions, customer habits and competitors will have to be taken into account, thus further limiting the possibilities of applying a uniform sales and distribution policy.

v)   Tourist services are complementary in nature and most customers require various services at the same time. Hence they prefer to deal with sales outlets that can

meet several related needs together rather than just
one requirement.

1.4.2 Disadvantages

Baker deems a loss of direct control as the major
disadvantage that the principal faces from using a
distribution channel. The loss of direct control could be on
all or some of the factors listed below :

i)   Selling effort - customer selection, call frequency,
      product emphasis, promotion and selling effort.
ii)   Pricing
iii) Delivery
iv)   Service - standard and availability

1.4.3 DIRECT SELL IN TRAVEL

Mayhew (1984) while recognising the major role played by
business travel agents in the sphere of retailing, examines
the assumption that their importance might diminish. Through
the use of direct distribution channels or ´direct sell´
principals might want to by-pass travel agents and reach
their customers directly. This could be done by horizontal
integration, that is principals owning and selling via their
own outlets. A second direct sell method suggested is that
of electronic booking facilities made available to the
company or the individual business traveller.

While this channel of distribution has been successful in
the USA for the marketing of airline travel to the business
sector, Mayhew gives three possible reasons for the practice
not being feasible in the UK:-

i)   The possible price advantage offered to clients through
      direct sell is considered a less dominant variable in
      the marketing of business travel.

ii)   The business travel market is thought to give more
      emphasis to factors such as choice, expertise and value
      added services, which are better satisfied by an agent.

iii) For a corporate account to subscribe to a single
airline booking operation would require its travel
patterns to be highly structured.

3.7 TRAVEL AGENCY REMUNERATION

Travel agents are remunerated mainly from commission paid out by the principals whose services they sell. They do not charge the customer for the service that they supply. Burkart and Medlik (1981) list four sources of travel agency remuneration :

i)   Commission on sales he makes of principal services.

ii) Commission earned from ancillary services, for example
     travel insurance and charges on travellers cheques.

iii) Income earned from the short-term investment of money
     received from customers as deposits and prepayments.

iv) Profit from the sale of his own tours if he operates as
     a tour operator.

Commissions charged vary from service to service. Table 3.10 gives typical commission rates along with the component percentage of that service in overall business turnover for an average travel agent.

Table 3.10 Commission Rates and related Turnover Content of
Travel Agency services

Service	Commission Rate %	Agency Turnover %
Domestic air	10	⎫
International air	8 to 11	⎬ 63
Cruises	10	13
Hotel	10	10
Car rental	10	7
Rail	10	3
Tours	10 to 15	⎫
Sightseeing	10	⎬ 4
Transfers	10	⎭
Travel insurance	33 to 35	

Source :   Louis Harris Survey, Travel Weekly, 1983

Travel agents are however not remunerated from principals
sufficiently and profitability ratios are generally very
low. Swinard (1985) despairs for travel agents and points
out the possible need to borrow capital to stay in business.
He also asserts "if we can´t balance the books we will have
to consider charging the public for our services" (pp 13).
He recommends service charges to be instituted for laborious
services that are not profitable in themselves,   like
continental rail tickets and reissues. Swinard also suggests
that more agents must do small-scale tour operating, as this
would bring in revenue and increase profitability.
Lundberg (1985) while assessing the remuneration level of a
travel agent, sets a thumb rule of a gross profit of 10% of
sales volume. Table 3.11 tabulates the sales volume or

turnover, gross profit, and compares a ratio of the two to Lundberg's estimate of what is expected.

Table 3.11   Gross Profit of a Sample of Travel Agents

Turnover £	Gross Profit £		Profit to turnover %	
	Actual	Desirable	Actual	Desirable
1. 684000	62050	68400	9.07	10.0
2. 565000	50000	56500	8.8	10.0
3. 8340654	529950	834065	6.35	10.0

<u>Source</u>   Pilot Survey data

All three companies fell short of obtaining the 10% desirable percentage stipulated.

3.8 <u>TRAVEL</u> <u>AGENCY</u> <u>LOCATION</u>

An important location is considered the secret of success in retailing (Burkart and Medlik,1980). Fremont (1983) offers the following suggestions to agents when choosing a suitable location :-

i)   The agency must be located in a business premise (as opposed to a house or apartment), and therefore be able to remain open during regular business hours.

ii)   The agency should not be located in the same room as another business, and the office set up must sell travel solely, and have an entrance to the street.

iii) It is recommended that a travel office not be located inside a hotel, unless there is direct access to the street.

iv)   An area which abounds with travel agencies is best avoided, although a busy commercial area is a must if 'walk-in' business is to be the mainstay.

v)   Adequate parking facilities are essential, unless the location attracts foot traffic as its main clientele.

vi)   The ability to put up hoardings and signs with the

agency name for simple and effective advertising.

vii) The location could be situated where middle class and upper-income homes are within easy driving distance. This could be a good source of vacation business.

viii) The existence of good-sized companies within a 10-mile radius, that might provide business travel, would be a plus point to the location.

ix) Finally for the physical position of the office the ground floor is suggested, with a large street-level window where posters and other displays can be used to interest walk-in business.

Beaver (1975) who opines that location is the "most valuable single asset of any business" suggests mapping existing travel agencies in a 5-mile radius of the desired location. He recommends a standard 'rule-of-thumb' method to decide whether a site is a favourable choice. Taking into account the fact that the populus comprises people who will not be potential customers, the local electorate size is plotted against existing agencies. A 1:3000 (one travel agency per 3000 potential customers) ratio is not uncommon in London, but a ratio of 1:20000 in a site might merit deeper consideration as to its suitability.

Ornstein (1976) describes what he terms as "store character" and includes location as an element that makes it up. A combination of the basic elements of merchandise, location, service and administration makes up store character and is related to the corporate image of the retailer. Wills (1978) reiterates the four elements above as essentials for effective retail management, and includes the following variables which would deem a retail site as being 'good' :-

    lines of transportation and communication, business attractions, competition, proximity to large cities and the profile of the hinterland.

Weisz (1980) surveyed travel agencies and classified them as being in primary or non-primary locations. He had hypothesised that certain factors were influenced by agency location. Primary locations referred to agents in the High Street, while non-primary locations were decided on the distance of the travel agent from his nearest competitor, and from his nearest principal. These categories of locations were then cross-classified with a number of performance indicators consisting of - turnover, employees, turnover per employee, turnover composition - and answers relating to window display, mailing lists, agency image, perception of the competition and extent of the hinterland. However the hypothesis testing did NOT reveal a significant link between location and the chosen performance variables.

3.9   TRAVEL AGENCY ADVERTISING AND PROMOTION

Literature examining the role of travel agents often questions as to whether the agent is merely issuing tickets or actually selling travel (for example : Fremont,1983; Smithyman,1985; Weisz, 1980). Travel agents were found to be performing a passive role in marketing and promoting their services in the research references quoted above. The travel agency sector also have a considerably lower advertising expenditure as compared to the major travel principals, as indicated in Table 3.12.

Table 3.12	Advertising expenditure in Travel and Tourism Television and Press 1981 - 1985 (£ million)				
	1981	1982	1983	1984	1985
Airlines	21.6	26.4	35.7	32.6	37.4
Railways	9.3	10.0	16.9	11.9	17.0
Tour operators	19.8	29.1	35.1	32.7	23.1
Tourist boards	10.0	11.5	13.9	13.5	13.2
Travel Agents	5.6	8.4	7.6	9.7	10.3

Source   MEAL Expenditure figures, Keynote publications

3.10 TRAVEL AGENCY SERVICES

As a sales intermediary the travel agent has a variety of services or products available for the clients who require them. It has already been stressed that the tourism industry consists of many component industries , and it follows that the travel agent's product is an amalgam of several component elements.

Kotler (1984) describes a product as anything that can be offered to a market for attention, acquisition, use or consumption that might satisfy a want or a need. It includes physical objects, services, persons, places, organisations and ideas. Since tourism consists of several different industries, its representative 'product' echoes this variance. Kotler's (1984, p. 469) definition of a product mix or product assortment is more apt therefore in the context of a travel agency's product :

A product mix (or product assortment) is the set of all product lines and items that a particular seller offers to buyers.

The tourist product is unique in several ways. Meidan (1984) summarises four characteristics common to the components of the tourist product.

1)   Inflexibility of supply - cannot be stored
2)   Tourism services are perishable
3)   Fixed location
4)   Relatively large financial investment

Yacoumis (1973) categorises the elements of the tourist product as tangible and intangible. As examples of tangible elements he cites the aircraft seat, hotel bed or restaurant meal, while the intangibles related to these tangible elements could be the comfort of the aircraft, the hotel atmosphere and the restaurant surroundings. He stresses that the tourist product "is essentially intangible and largely subjective and it is therefore difficult to measure its dimensions accurately" in terms of specific units. Fremont (1983) seconds this view -"there is a greater responsibility placed on a travel agent, as opposed to other businesses in that the agent has nothing tangible to sell - only a promise of service."

So, while it is to be recognised that travel agents sell products that are both quantifiable and unquantifiable, a certain range of products can be classified. Mayhew (1984) gives two main determinants of the product range offered by a travel agent. Firstly are the licenses and appointments that the agency possesses. Secondly is the marketing position the agency holds within the industry.

Smithyman (1985) categorises tourist products as basic and complex. The basic tourist products include air and railway tickets, hotel, car reservations. The distribution of this

basic product group can be direct (via a sales office, telephone, mail), or through a travel agent or tour operator. Complex products are inclusive tours, and other combination products, which use two or more of the basic products.

Fremont (1983) categorises a travel agents products into those associated with vacation travel and commercial travel. Independent and escorted package tours, and individualised tours fall into the former category, while travel business from a particular firm or corporation comprise the latter. The possible pros and cons of selling these product categories are listed by her as follows :-

VACATION TRAVEL PRODUCTS

       Pros   o Groups yield large profits
                   o Possibility of building up override
                   o Leisurely pace of work
                   o Satisfaction of using one´s
                     knowledge of areas and services

       Cons   o Requires more research
                   o More reliance on travel suppliers

COMMERCIAL TRAVEL PRODUCTS

       Pros   o Constant volume of business gives
                     high volume of earnings
                   o Fast completion of transactions
                   o Potential source of leisure business

       Cons   o Frequent itinerary changes
                   o Work more repetitive
                   o Higher expenses on more staff and
                     equipment
                   o Fast pace of work; high pressured

The inclusive tour, that is considered to be the mainstay of travel agency business, is a "composite tourist product" bringing together individual elements into a saleable

package. Inclusive tours can be classified in various ways, for example as domestic/international, short/long haul, by mode of transport used (air/sea/coach etc.) or by the type of activity offered. Table 3.13 presents 16 tour brochure categories :-

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TABLE 3.13   TOUR BROCHURE CATEGORIES

Summer sun
Winter sun
Own brand
Long haul
Britain/ UK/ domestic
Short breaks/weekend breaks/city breaks/continental breaks
Lakes and mountains
Age groups (18-30, Saga)
Activity holidays
Coach tours
Ferries / shipping
Cruises
Flight only
Ski
Villas / apartments
Destination

Source   From 'Travel Agency Merchandising', Buttle (1986)

While the "basic" elements of the tourist product are offered in most travel agencies, authors like Fremont (1983) stress that more than just the run of the mill services must be offered. Fremont identifies five product categories that will offer higher profits to agents :

i)   Inbound travel
ii)   In plant agencies
iii) Incentive travel
iv)   Business groups
v)   Luxury travel

The seat only market is another product increasing in volume and one that travel agents are starting to sell. Thomson Holidays Seat-only manager Bill McGorty reported that

(Saltmarsh,1986) they were expecting a 200% increase in seat only bookings, with the growth coming from ABTA travel agents. With increased innovation and promotion from Cruise operators, Harding (1986) reported that agents now had a wider range of cruise products to sell than ever before. P & O also introduced incentive commission, available to agents who succeed in going beyond their normal cruise sales targets, in order to boost Cruise sales.

Other auxiliary or related products sold by travel agents include travel insurance, foreign exchange facilities, processing of visa or health requirements, theatre and concert tickets, guide services.

To sum up the travel agent's product consist of a range of different products, that may be categorised in different ways, and be sold in different proportions from agency to agency. Primary products from air travel to auxiliary products like travel insurance may be offered. Appendix A is a promotion brochure from Hogg Robinson Ltd detailing the travel services the company offers to the public.

3.11 TRAVEL AGENCY STAFF

Beaver (1975) views staff as an intangible asset to a travel agency. Staff numbers and their quality are considered fundamental to the success of any service industry, travel agencies included. A significant proportion of a travel agent's operating costs comprise staff remuneration, as presented in Table 3.14 below.

Table 3.14	Operating Costs of a Typical Travel Agency

Cost Centre	Percentage of Overall Costs %
Staff	50.6
Telephone charges	11.0
Accommodation Rental	8.0
Rates	4.7
Lighting / heating	1.7
Advertising	2.8
Postage	2.0
Other (including depreciation, office equipment)	19.2

	100.0
	=====

Source   International Tourism Quarterly (1984)

Nightingale (1980) classifies three groups of occupations in Retail travel agencies. Firstly, there are the occupations at professional level which include managers and supervisors. Marketing and training staff are classified under Operational occupations, and travel clerks or consultants comprise the third group. Metcalf (1987) describes a typical travel agency as consisting of a manager, assistant manager, chief cashier, two other cashiers and four counter clerks.

An IMS Report examining career structures in the tourism industry (Metcalf, 1987) found that counter clerks were recruited to travel agencies as experienced staff taken from other agencies, or without experience and trained by YTS or holding A BTech qualification. Of the travel agents sampled a high percentage (33%) had YTS trainees as part of their staff. Graduate training schemes were in operation on a small scale, providing graduates faster training and

promotion prospects in the company. Nightingale (1980) reported from his survey that over 50% of the sample held an HND in tourism, while 25% held HNDs in other fields. It was found on average that travel agency staff were younger than others in the tourism sector (50% were between 21 and 25, 7/22 were 26-30 and 4/22 were 31-35).

ERQ or training for an externally recognised qualification amongst staff employed was low for travel agents as compared to other sectors of the travel trade. Only 20% of the sample embarked on training office and counter clerks for an ERQ. This did not seem to be due to a lack of effort on the part of travel agency management. They reported that fees for COTAC, ticketing qualifications and language training was paid by them, but that "take up" was low.

Eric Laws (1986) reported that interest in the training requirements of the travel industry had led to more courses being initiated. Organisations like ABTA, City and Guilds, and the Business and Technician Education Council (BTEC) have all developed a variety of syllabuses, which are market oriented. Laws opines that it is vital to have collaboration between colleges of training and travel companies.

On a less formal level, Fremont (1983) lists a few job skills essential to a travel agent, more apt in the context of an independent :-

- An aptitude and interest in people-oriented work
- Travelling oneself to 'know what you are selling'
- Foreign languages
- A keen business sense or know-how acquired from past jobs
- Imagination and ability to generate business
- Patience for detailed work
- Ability to work under stress
- Ability to work under industry regulations
- Good educational background with knowledge of geography and world events

Beaver (1975) opines that an independent travel agency owner would have to be "a lawyer, accountant, booking clerk and office boy all rolled into one." Being a multi faceted industry, a travel agent has to call on a group of skills to service his clientele. To sum up the knowledge or skills required by any agent can be classified into:-

i) Product knowledge: this includes knowledge of transport,accommodation,tourism markets & destinations.

ii) Procedural knowledge: this comprises booking and ticketing techniques, including use of technology, manuals etc.

iii) People skills: the skills of handling different customers, principals,staff and situations.

iv) Selling skills: can be described as the art of translating a travel enquiry into a successful sale.

v) Objectivity: this means giving unbiased advice.

3.12 TRAVEL AGENCY CLIENTELE

"Clients come in endless varieties - the pleasant, the irritating, the co-operative, the argumentative" (Fremont, 1983, pp 121). When travel agents were queried about the factors contributing to their success, one replied "you are as good as what walks through the door." The influence of clientele on labour productivity, business turnover and range of services offered, was expressed by most of the agents (80 %) interviewed in the early parts of this study. There is no airtight classification of the numbers or types of travel agency clients. Fremont (1983) refers to five types of clients requiring travel agency services, and these are presented below with a brief description.

TYPE OF CLIENT	DESCRIPTION
1) The ´knows what he wants´ client	probably a frequent traveller; easiest type to handle; just needs a booking.
2) The ´knows what he wants but not sure where´ client	needs advice on choice of destination, facilities.
3) The ´group´ client	travels in a group; not possible to cater to each individual in the group; need careful handling to cater to special needs & to satisfy most of the group.
4) The ´youth or student´ client	their need is usually for cheap travel; with minimal emphasis on luxury facilities.
5) The ´business´ client	an important client to please; usually deal with a secretary in charge of travel arrangements; need prompt feedback and are clear of their needs.

Mayhew (1984) while describing business travellers reiterates that there is rarely one coherent representative body of people. He classifies three types of business travellers, as represented below, depending on the level of knowledge, experience and needs of the individual traveller.

<u>TYPES OF BUSINESS TRAVELLERS</u>

1) The do-it-yourself type
2) The do-as-allowed type
3) The do-as-told type

While travel agents do cater to a gallery of clients with special individual needs, there are certain basic

information requirements common to most tourists. The potential tourist typically needs :

- information on the destination to be visited
- accommodation at the destination
- transport to and at the destination
- product range and availability
- price

In addition to these basic needs, general information can cover practical matters (visa, health, currency etc.), climate and weather forecasts, local customs, useful addresses, sightseeing etc. These are provided in several forms by agents (verbally, brochures, reference books, videos etc.) and a popular form has been Thomas Cook´s Information Bank (TIB). The business travellers needs are similar to a tourists, but his choice of destination is preset.

3.13 TRAVEL AGENCY USE OF TECHNOLOGY

Having described the travel retail network and its environment this section examines the computer and communications technology as they apply to the travel industry. The impetus for investment in computerised systems arises with the possibility of greater efficiency in processing transactions, increasing the scope for more specific, individualised information, convenience of information and task performance available at any time. In addition the economies rising from reduced waste of time

and paperwork, floorspace, staff wages, speed of
transactions, range of services etc.

3.13.1 Viewdata or Videotex Networks

The technology in use by travel agents primarily concerns
the use of interactive videotex or viewdata. This is
basically an electronic information and message-sending
system. A VDU (Visual Display Unit) displays the information
that could be textual and graphic and this is connected to
information stored on a computer via a telephone line. Its
'interactive' nature enables two-way communication, and it
is considered as a computer system designed for the non-
expert or novice user. This is because the search for
information on most videotex systems is menu-driven, with
user friendly facilities like keyword scanning.
The pioneering videotex network was PRESTEL, launched by
British Telecom in 1979, and several other networks like
ISTEL, Fastrak and private tour operator networks (e.g.:
Thomson Holiday's TOP system) now abound. Agents rushed to
subscribe to the networks when the major tour operators
announced their decision to sell solely via videotex. Quite
often they need to subscribe to two, or all three of the
networks as different principals allow access via different
networks. For instance Thomson has its TOP system accessible
to selected agents via Istel only, while ILG holidays are
sold via Fastrak and Prestel. The three networks have a
similar number of principals connected who are mainly tour
operators but include services such as ferries, theatre
bookings, airlines, hotels, UK holiday centres and

travellers cheques. Costs of subscribing to the networks vary, with Prestel´s being the cheapest (£650 per year) and Istel and Fastrak costing about £200 to £300 more per annum, in 1990.

Specialist Viewdata systems operate via a Gateway´ system and act as intermediaries between agents and principals. Gateway is the name given to the facility which allows entry and access held on a principal´s computer via a videotex link. An example is Travicom Skytrack which enables agents to link directly into the airlines´ databanks via a dedicated line (i.e. a leased line that connects the agent directly to the databanks without sending the request via a videotex network) to allow reservations and ticketing facilities.

The league table below lists the tour operators who are accessible via viewdata. The viewdata systems usually ´jargonised´ into abbreviated ´words´ are on the left while their related holiday companies appear on the right.

Appendix E presents a sample of sales literature from Viewdata companies, including PRESTEL, ABC Electronic and TravelVision videotex systems. The benefits accruing to the travel agent from the installation and use of the systems are all detailed. Appendix F is a similar collection of sales literature pertaining to Airline CRS systems. TRAVICOM, Sabre and Galileo literature is included, which also detail the various applications that an agent can avail of with subscription to the systems.

Table 3.15   Tour Operators with Viewdata Access 1990

Viewdata System	Travel company
ARGOSY	AA Travel Services Ltd.
BOSS	Balkan Holidays
CHAMPS	Crystal Holidays
CIAO	Citalia
COSMOS	Cosmos coach Tours Ltd.
GRECIAN	Best Travel Ltd
HAVEN	Haven Leisure
INTA	Intasun Holidays Global Air Holidays Club 18-30 Lancaster Holidays Select Holidays
KUDOS	Kuoni Travel
MAT	Monarch Air Travel
NEILSON	Neilson Leisure Group
PAL	Poundstretcher
RV2	Redwing Holidays Ltd Martin Rooks Holidays
SPACE	Airtours PLC Carousel Holidays
SPAN	Globespan holidays
SPARTA	Olympic Holidays
TOFS	Falcon Leisure Group
TOP	Thomson Holidays Ltd Horizon Holidays Ltd
WAND	Wallace Arnold Tours Ltd
WISE	Travelwise Ltd
YUGOTOURS	Yugotel

Source: World Travel Market Directory, 1990

3.13.2   Airline Computer Reservations Systems (CRS)

Travicom wholly owned by British Airways launched an airline system in 1977, which continues to dominate the CRS (Computer Reservations System) world. It is called Travicom Executive and is a more sophisticated system which requires more training than the systems above. Travicom had been installed in an estimated 804 locations, with 1680 terminals in 1985, and in 1990 Executive terminals operating in business travel specialists alone amounted to 1500 locations.

The two new European consortia AMADEUS and GALLILEO started to go 'live' in 1990 in UK travel agencies. The systems are being introduced in 'phases' and cutover is expected to take another 1-2 years. SABRE and PARS the US CRS systems are also making inroads into travel agencies to dominate system market share. Galileo which has had a massive capital investment (nearly £150 million to date) starts off with a two major advantages in the UK market. Firstly Travicom is already deeply entrenched in UK travel offices, and Galileo can slip in as a successor. Secondly, Travicom already has its training, management, service back-up and reputation well established in the UK nationwide. Thirdly, agents who already possess Travicom "dumb terminals" will be able to switch to Galileo, with full service and support continuing. Ofcourse issues of price, features offered, speed and principals covered will all be important variables in wooing travel agents support of the new CRS. Table 3.16 gives the major CRS in the travel industry, together with the airline carrier or carriers who own them.

Table 3.16   Airline Computer Reservation Systems 1990

CRS	Airline
AMADEUS	Air Inter
	Air France
	Iberia
	Finnair
	JAT
	Linjeflg
	Lufthansa
	SAS
	Adria Airways
	Braathens
	SAFE
	Icelandair
	Emirates
ARIES	Iberia Airlines of Spain
BABS	British Airways
CORDA	KLM Royal Dutch Airline
COVIA	United Airline
CUPID	Cathay Pacific
DATAS II	Delta Airline
GALLILEO	British Airways
	KLM
	Swissair
	Covia
	Tap Air Portugal
PANAMAC	Pan American World Airways
PARS	Trans World Airlines (TWA)
SABRE	American Airlines
SAPHIR	Sabena
SMART	Scandinavian Airlines System (SAS)
SONIC	Continental Airlines
SYSTEMONE	Eastern Airlines
TRAVICOM	British Airways

Source: World Travel Market Directory, 1990

3.13.3 The Implications of Automation in Travel Retailing

Welburn (1987) writes that "after a century of relatively peaceful existence" travel distribution now faces a challenge from a combination of factors relating to technological developments. The previous two sections outlined the systems available to travel agents at present for the distribution of travel services. This section details the applicability of the systems to the travel product and the present and future implications of its use to the travel retailer.

Technology is already being currently used within the travel industry in the following main areas (BTA, 1981) :-

A. Reservations
B. Information
C. Market Services
D. Ticket issue/Invoicing/
   Itineraries

E. Accounting and statistics
F. Forecasting
G. Publications

The travel product with its requirement for information on various component and related elements, lends itself well to being managed by the new technology. Voluminous published data records (e.g. ABC Fares/ Flight manuals) which are very difficult to keep up-to-date can be replaced by databases, with easy access. Regular on-line updates would ensure up-to-date and reliable information on various aspects of the travel product. For instance ABC Electronic, Europe's leading travel database, makes 33,000 fares amendments and 12,000 schedule changes every day. Retrieval of information is also eased and simplified by the new technology. For instance the SAHARA hotel database can be searched using one or a combination of the following selection criteria :-

- city
- area within the city
- hotel chain

- hotel rating/ grading
- tariff
- specific hotel facilities

New markets have also been incepted by the new systems like the Last Seat Availability of holidays and flights.

While all the 'basic' travel products like air and rail travel, hotel accommodation, car and coach hire have already been automated, developments continue to put more travel services 'on-line'. For instance travellers cheques and insurance policies can potentially be issued and validated just as airline documents are. Visas are already technology aided to a certain extent in that information relating to them are available on system databases. However even more advanced technological aids are foreseen like the 'Electronic Passport' (i.e. machine readable passports) which would speed up entry formalities. The use of smart cards for airline and hotel vouchers (and perhaps facilitating automated check-in) and advanced self-service ticketing facilities are all technological advances that might be soon in regular use.

While the practical contributions of the new technology have tremendous potential positive implications for the travel retailer as detailed above, the benefits of the technology will only be fully realised by the agents most proficient in the use of the systems. There has been speculation that with an increasingly computer literate society emerging, home-buying of travel via personal systems will prevail, making the travel agent redundant. Those agents who can use the technology to the fullest in enhancing their service to the public are thought to be the survivors. In conclusion, technology and travel retailing are inextricably linked, and the ability to fully exploit the systems' applications must be a top priority for agents.

CHAPTER 4   THE DETERMINANTS OF LABOUR PRODUCTIVITY

4.1   INTRODUCTION

4.2   PRODUCTIVITY IMPROVEMENT DEFINED

4.3   LABOUR PRODUCTIVITY DETERMINANTS
       4.3.1   General Literature Sources
       4.3.2   Specific to the Travel Industry
       4.3.3   Field Research findings

4.4   COLLATION OF LABOUR PRODUCTIVITY DETERMINANTS FOR
       THIS STUDY

4.1 INTRODUCTION

Chapter 2 explored the economic concept of productivity, and more specifically labour productivity, its definition, measurement and usefulness as a performance parameter. Chapter 3 outlined the travel agent who is the unit of study in this thesis. This chapter explores the theorised determinants of labour productivity, and attempts to identify causes which effect labour productivity variance in travel agents.

Literature relating specifically to travel agency labour productivity was not available. Supplementary information was gleaned from literature relating to productivity improvement, service sector labour productivity and the determinants of travel agent´s marketing behaviour. In addition the determinants check-list was added to by the initial field research, that involved interviews with travel trade personnel. Based on the empirical evidence of Chapters 2 to 4, a series of research hypotheses or contentions were raised, and these are the topic of Chapter 5.

4.2 Definition of Productivity Improvement

Measurement is a means to an end.In the case of productivity measurement the end is usually ´productivity improvement´ which involves the change of certain controllable factors to produce higher or better productivity. The proces of actually attempting the change is termed productivity

management.

Sink (1985) defines productivity management as the process that entails strategic and action planning and a critical process onongoing and effective implementation. Productivity improvement is therefore the result of managing and intervening in key transformations, or work processes, or input factors, identified via productivity measurement.

Five conditions are given for productivity improvement to occur:-

a) Output increases; input decreases $\dfrac{O^\wedge}{Iv}$

b) Output increases; input remains constant $\dfrac{O^\wedge}{Ic}$

c) Output increases; input decreases but at a lower rate $\dfrac{O^\wedge}{Iv}$

d) Output remains constant; input decreases $\dfrac{Oc}{Iv}$

e) Output decreases,I decreases,but at a more rapid rate $\dfrac{Ov}{Iv}$

4.3   Productivity Determinants

The variables that effect productivity improvement are detailed under three sections, depending on whether the source of the information was from general economics literature, literature specific to the service sector or travel industry, or from field research interviews.

4.3.1 <u>General</u> <u>Literature</u> <u>Sources</u>

Fabricant (1969) identifies 3 key factors, an increase in any of which will produce a change in productivity:-

    a) greater efficiency with which labour and capital reused.

    b) more tangible capital employed with each man-hour of labour.

    c) better average quality of labour.

Kendrick (1977) identifies groups of causal forces or factors that he holds responsible for productivity increase or advance:- (p.66) In the short term he considers:-

a) Changes in rates of utilization of capacity of individual plants, industries etc pointing out that it is a cyclical phenomenon, Kendrick deems the effect on the long term as minor.

b) Changes in the degree of efficiency with a given technology would affect productivity change. In the case of new technology, the ´steepness of the learning curve´(i.e. the rapidity wih which requirements of a new technology are learned by individuals or groups, and refined and integrated in organisational routines) measured by training and retraining investments is a casual determinant of productivity increase.

As ´Secular factors´ Kendrick classifies two groups:-

a) Investment factors. These can be broadly defined as all outlays that contribute to output and income producing

capacity (capital) for future periods. It excludes outlays for tangible structures, equipment, inventories, development of natural resources and even the costs of producing tangible human capital (eg cost of rearing children to 'working age'), which represent capital formation. In Kendricks' opinion it is the intangible investment designed to improve the quality and efficiency of the tangible non-human and human factors that are of particular significance in explaining produtivity advance.

b) Non-investment factors would include internal and external economies of scale and the degree of economic efficiency given by the allocation of resources in accordance with the community's preferences. This includes the basic value value system prevalent in the society and the attitudes, ambitions and adaptability of individuals at large, and in their work places, as important factors in productivity change improvement.

Sutermeister (1976) gives a range of factors represented diagrammatically on concentric circles which effect labour productivity. The size of each segment bears no relationship to its relative importance. However, Sutermeister stresses that the importance of each segment would vary with different organisation, departments, and even different individuals. The factors in each segment affect factors in the corresponding segment of the next smaller circle and they may also affect and be affected by other segments in the same circle or other circles.
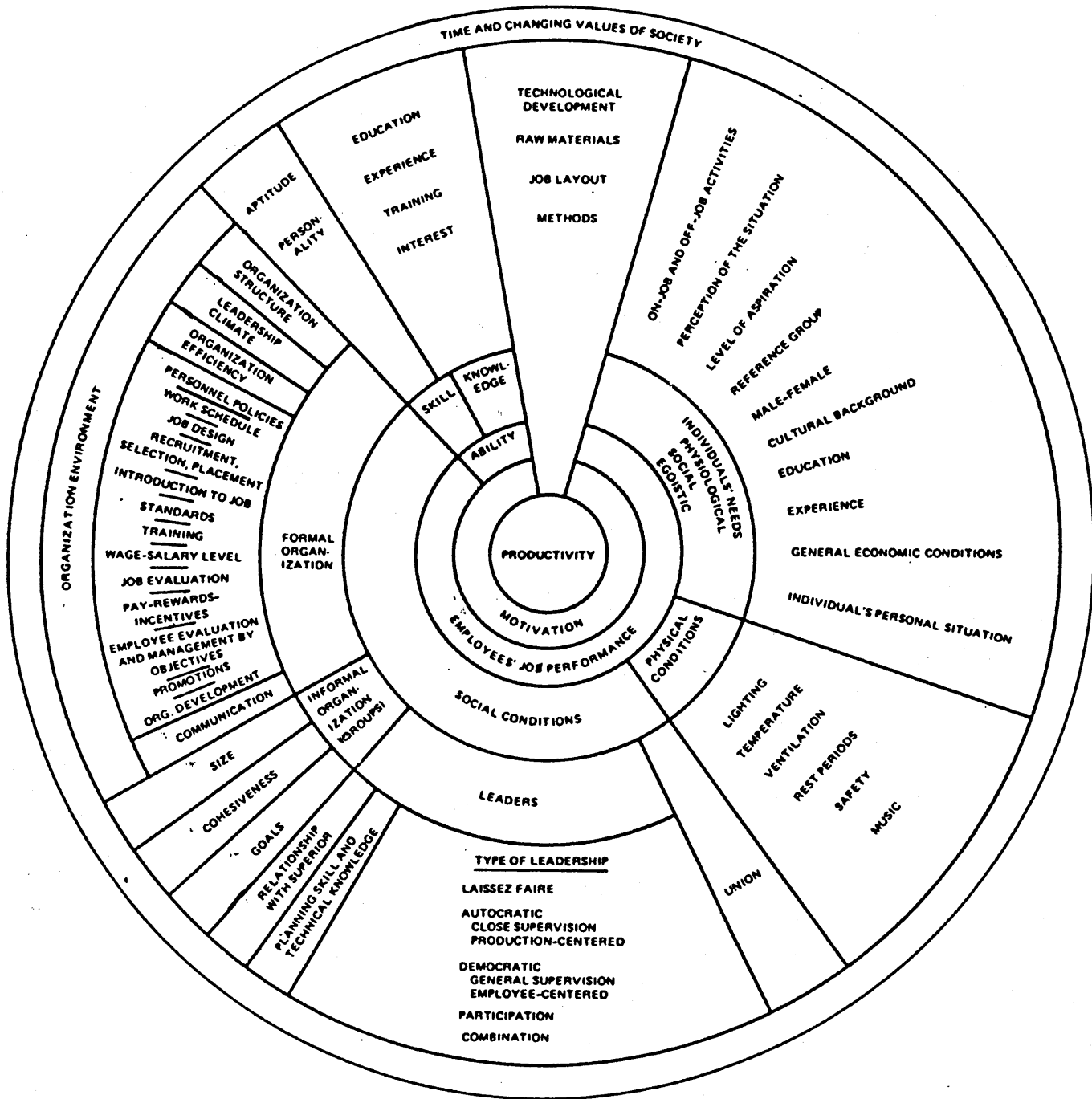
Figure 4.1 Major Factors affecting Employees' Job
Performance and Productivity
(Source: Sutermeister, 1976, pp 66)

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Senoun (1981) classifies three factors responsible for what he terms 'productivity growth' (synonymous with productivity improvement) - capital investment, improvements in labour productivity and advances in technology. He opines that the rate and adequacy of productivity growth is a direct function of an increase in the three causal factors above.

4.3.2 Determinants Specific to the Travel Industry

Rathmell (1974) opines that productivity improvement in the service sector is equivalent to improvement in the service product itself. He recommends two approaches in order to acheive increased productivity in service industries. The first calls for greater standardisation of performance, and mass production. Rathmell's second approach is the improvement of technological means of performing services.

A brief look at the objectives of a travel agent will help put into perspective what he must do to satisfy these objectives in a productive way. As has been discussed in the previous chapter the "loyalties" of the travel agent are two-fold. He serves the public at large as well as the travel principals that he represents. While some of the objectives are common to both the groups that the travel agent services, there are some that are unique to each group.

Common objectives applicable to customers and principals needs would be :-

- maintaining good quality service levels
- being accessible
- having a reasonable standard of layout and window displays
- maintaining good return on investment and profit levels

With the travel principals the travel agent would aim to :-

- establish a good working liaison
- develop efficient communication links
- obtain training and sales support
- acheive commensurate rewards (commission, bonuses etc)
- keep reasonable sales levels of principal´s products
- "stock up" on related literature, documents etc.
- maintain and update product information
- actively sell principal´s products

With the customers who use his services the agent would aim to :-

- give unbiased advice
- provide rapid and accurate information
- personalise the service offered
- satisfy information needs

Meidan (1984) summarises all of the above objectives into five categories for the travel industry in general, but they are applicable to the travel agent :-

1) Satisfying tourists´ needs

    This requires the ability to know and meet customers´ needs relative to the competition. This would endow the agent with a set of differential advantages like cost leadership, specialisation of products, appropriate service quality, proper location etc.

2) Maximising occupancy

This objective is related to profitability and volume of business, and also influences the profit performance and business volume of the principals being represented.

3) Maximising Return on Investment

This is an important factor especially for large public owned agencies. An acceptable rate of return on total capital invested is a must for the development and enhancement of the company.

4) Maximising Tourist Establishment's Total Profit

Meidan stresses that while profitability should not be the sole end of business activity, it is still very important as a vehicle to ensure survival and growth.

5) Achieving a Stable Occupancy

In the travel agent's context occupancy can be seen as an acceptable threshold of business volume. It is explained that occasionally maintaining this acceptable level of business activity is at the expense of profititability, which might be justified if the stability is kept.

So what makes one agent satisfy the above objectives in a more 'productive' way than another ? Marketing literature points us to the need for having a set of efficient marketing mixes that will enable the fulfillment of the organisational objectives despite competition. These consist traditionally of the the four P's: Product,

Price, Place and Promotion. Renagham (1981) narrows these down to only three elements in the context of the tourism mix- the product-service mix, the presentation mix and the communication mix. The product-service mix refers basically to the range, quality and variety of products and services offered, and includes the price element. The presentation mix includes the elements of promotion, identifying target markets, ´USPs´ or Unique Selling Propositions and feedback evaluation. The communication mix refers to the company´s accessibility, and its communication resources including CRSs.

Meidan (1979, pp28) gives a list of twenty nine criteria that affect a tourist´s selection of a travel agency, as is presented below. These can also be taken as criteria which make an agent productive and thus lead to their selection by potential customers.

Table 4.1   MAIN CRITERIA AFFECTING TOURISTS' SELECTION OF
A   TRAVEL AGENCY

No: Criteria

1.   Package price
2.   Subsequent price surcharge
3.   Terms of payment
4.   Inflight entertainment
5.   Inflight comfort
6.   Inflight service
7.   Hotel amenities
8.   Hotel comfort
9.   Hotel service
10.   Insurance scheme available
11.   Variety in choice of destinations
12.   Variety in holiday travelling activities offered
13.   Variety in choice of hotels
14.   Availability of agency representatives at resorts
15.   Free time during tours
16.   Advance booking requirement
17.   Prompt booking confirmation
18.   Assistance with visa handling
19.   Travel agency reputation
20.   Travel agency financial standing
21.   Travel agency location
22.   Number of offices (branches) of travel agency
23.   Travel agency office layout
24.   Travel agency interior decoration
25.   Sufficient brochures provided
26.   Agency advertisement on TV
27.   Agency advertisement in magazines
28.   Agency advertisement in newspapers
29.   Agency advertisement in other media(posters,radio)

Source: Meidan (1979), Travel Agency Selection Criteria

4.3.3 <u>Field</u> <u>Research</u> <u>Findings</u>

Travel trade personnel were queried about their opinions on the measurement and determinants of their productivity in interviews conducted in the Field Research stage of the study. The findings supplemented the theoretical factors already discussed, and contributed to collating a set of determinants suitable for this study (Section 4.4). The main responses to the queries raised are presented below in a summarised form.

QUERY	RESPONSES
Determinants of a travel agents productivity	Good, helpful, friendly staff Good window display Advertising, sales and promotion Efficient use of technology* Repeat business Volume of business Profitability of average transaction Location Liaison with Principals Managerial abilities Reputation Price Range Range of services Competition External factors (* this was further investigated and the responses are under Technology)
Major Resource Inputs	Staff expertise Efficient information retrieval Efficient document processing Efficient accounts processing Accurate information from suppliers Staff training Staff educational level Advanced technology
Major Company Outputs	´Service´ Unbiased advice and service Information for solutions to client´s travel problems ´Peace of mind´

Company performance criteria	Profit Clients appraisal reports Internal validation of services
Company Objectives and Targets	Staff time utilisation Past year's experience of areas needing improvement Profitability

Technology

Changes/ effects Noticed with the introduction of computers	Paperwork less tedious Paperwork processed more quickly Profit maximised Transaction time minimised Instant access to financial information (removal of complex written and filed ledgers) Greater control Greater quality control Improved efficiency Enhanced reputation Greater accuracy of information

4.4 Collation of Determinants for this Study

For this study, after surveys of marketing and economics research reports, company (ie travel agency) reports and personal interviews with travel agenies and bodies like ABTA and the ETB, four groups of factors were classified as contributors to productivity improvement in travel agencies.

a) Labour related factors:

This includes data on the quantity, quality and price of labour variables. Staff numbers, demographic details like sex and age, education of staff, length of travel industry experience, staff training, staff costs and staff attributes and incentive schemes.

b) <u>Technology</u> <u>related</u> <u>factors</u>:

This includes data on videotext, computer reservation or in-house systems. Type of technology used, main applications, level of usage, date of installation, reasons for introduction, training, number of terminals, general attitudes to systems.

c) <u>Capital</u> <u>related</u> <u>factors</u>:

Where available, data on fixed assets, capital employed, staff costs, turnover or sales, profit etc will be assessed against measures of productivity to obtain the contribution and impact from these income and expenditure related factors.

d) <u>Physical</u> <u>and</u> <u>other</u> <u>factors</u>:

These include age of the company, size(in terms of turnover, staff numbers, number of branches etc), location, type (eg travel agency + tour operator, in-plant agency etc), geographical area,competitors in the locality, main services offered, focus of business etc. Advertising and marketing expenditures obtained from MEAL may also be included as a variable effecting productivity.

Besides these four groups there are several 'intangible' influencing factors, including external or uncontrollable factors. Intangible factors that could contribute to one travel agent being more productive than another include reputation, image of the company, staff and manager's personality and social contacts, liaison with principals etc. External factors that may be uncontrollable include

changes in market demand, increased/decreased competition, travel propensity of public, Government/official rules and regulations, inflation, leisure time available, disposable incomes etc.

This study does however concentrate on the four groups of factors detailed above, with special stress on any impacts on productivity ratios and indices from the introduction of computer systems.

CHAPTER 5   RESEARCH HYPOTHESES

5.1   Introduction

5.2   Concept of Hypothesis Testing

5.3   Summary of Contentions based on Empirical Evidence
      5.3.1   Company Profile
      5.3.2   Client and Market Profile
      5.3.3   Product Profile
      5.3.4   Travel Agent´s influencability
      5.3.5   Staff Profile
      5.3.6   Systems Profile
      5.3.7   Productivity figures
      5.3.8   General Opinions
      5.3.9   Productivity factors

5.4   Central Research Hypotheses

5.1 Introduction

The objective of statistics is to make inferences about a population based on information contained in a sample (Mendenhall and Reinmuth, 1982). The population can be defined as the collection of all items of interest in a particular study, while the portion of the population selected to represent the whole population is the sample (Anderson et al, 1984).

Several contentions were laid out in the rationale for choosing the travel agent as the unit of study (3.2). The basic aims of the study summarised in the Introduction made assumptions on labour productivity and travel agents, and set out to further investigate these issues. The empirical evidence scanned in Chapters 2, 3 and 4, have yielded interesting information on the research topic. As a result, it has been possible to narrow down and concentrate the research efforts on certain salient points that have been thrown up in the desk and field research.

It is the focus of this chapter to summarise these contentions and questions into hypotheses, and an attempt will be made to explain and prove or disprove them in the Statistic Analyses outlined in Chapter 7.

5.2 The Concept of Hypothesis Testing

Hypothesis testing involves the testing of a predetermined value of a population parameter, based on empirical evidence, an assumption or a contention (eg: Airline sales

account for 90% of travel agency turnover). From the sample studied it is then determined if the hypothesized value should be accepted or rejected, after subjecting it to statistical tests.

There are seven basic steps in hypothesis testing and these are outlined below, to allow a better understanding of how their formulation and analysis was carried out :-

1) The first step is to state the hypothesis. This could be either the Null hypothesis (or Principal hypothesis) which hypothesises no difference between the compared parameters, or the Alternate hypothesis which is the condition the researcher wants to believe is true.

2) Statistical inference is composed of two elements - the inference and the measure of its goodness. For a statistical test of hypotheses this is determined by the probability of making a Type I or Type II error (the first relates to rejecting the Null hypothesis when true, and the second is the opposite case). The second step in hypothesis testing is to select the level of significance of the probability of an error.

3) Stage 3 involves the selection of the "test statistic" (based on the sample) or the value that will be the decision maker to determine if the hypothesis true or false.

4) The critical value of the test statistic is then established.

5) The actual value of the test statistic is determined.

6) The decision is made.

7) Appropriate action is taken.

5.3 Discussion of Contentions

The literature and field surveys have been voluminous, and it is the object of this section to bring together those observations recorded in the data search that are capable and of interest to investigate further. For convenience the contentions have been divided into nine main topics, under which a summary of findings, significant "quotes" and figures are presented. The topics covered are Company Profile, Client and Principal profile, Product profile, Travel agency influencability, Staff profile, Systems profile, Productivity figures, General opinions and Success factors.

5.3.1 Company profile

These relate to the basic characteristics, role, nature and functioning of the travel agent. Opinions on the perceived differences between multiple and independent travel agents was of particular interest. It was opined that independents market share was threatened by multiples, because of a lack of finance, up-to-date technology, corporate image and promotion and economies of scale (Gauldie, 1989; Hulse, 1988). Multiples were thought to dominate business travel because they had the high capital investment required, could offer better credit conditions and discounts, had prime locations and greater staff skills (Saltmarsh, 1985; EIU, 1985). Several authors even spoke about "the demise of under capitalised, understaffed, smaller independents" (Gauldie,

1989). Independents were seen however to have a larger range of services, more flexibility of operation and a more personal style of service.

In addition company profile features including size of the company, its "age", location, region, type of ownership and focus of business were discussed as factors that influenced productivity (4.3), and varied between multiples and independents.

5.3.2 Client and Principal profile

It was contended that travel agents had 'low repeat business' clientele (Travel Agency, 1987). Not much information was discovered as to the break-up of the travel agent's market, and it was decided that this be further investigated.

The importance of having a good working relationship with the travel principals has been emphasised earlier, but it was of interest to discover what the principals do for the agent. It was contended that "the large airlines, well aware of the importance of agents, help to train them, keep them informed, and to a certain extent court and entertain them" (Lundberg, 1985, pp100). At the same time principals seemed to be doing 'selective marketing' and only wooing those agents they thought would be beneficial to them. For instance British Airway's General Manager (Sales) is reported to have declared "We will only support those who are as efficient as we are. There are too many agents and principals are becoming more selective in their choice of agents" (Wraight, 1987). It was of interest therefore to

find out to what extent principals provide support to the agent.

As far as competition was considered some felt that alternate forms of retailing like mail order and direct sell with a market share of about 10% were not a serious threat to travel agents, because of their slow development (Saltmarsh,1986) while some like Young (1973) deemed that other forms of retailing like banks and stores would reduce the travel agent to extinction. In-store travel was considered a threat to multiples (Euromonitor, 1985), while some like Young (1973) deemed that other forms of retailing like banks and stores would reduce the travel agent to extinction.

5.3.3 <u>Product</u> <u>profile</u>

There was thought to be considerable variance in the product range sold by multiples and independents. Package holidays were considered the mainstay of most agents income, accounting for over 50% of turnover (Euromonitor, 1985; Saltmarsh, 1986; Beaver, 1975). Stevens (1985) felt that being able to sell airline tickets made it possible for a travel agent to exist, with airline income making up the most part of agency turnover.

Profitability of individual services was an area that data was required on. Cruises were considered the most profitable of all agency products, and following that was selling insurance (Brownell, 1975). Overseas package holidays were most lucrative according to Saltmarsh (1986), while IATA

plans to pay super agents high override seemed to point to airlines as the most profitable products.

5.3.4 Travel Agency Influence

The degree of advice a travel agent is expected to give and gives was an important contention. Some products were deemed ´high advice´ products (eg: overseas travel, combination products like ITs) while some like rail tickets were low advice products (Lundberg, 1985; Smithyman, 1985).

To what extent the travel agent was able to "influence" customer choice was a very significant area of interest. From the customers´ viewpoint, the travel agent was seen as serving their interests in providing unbiased advice and service (Welburn, 1987). However from the point of view of the principals the costs of using travel agents were weighed up against the advantages and market penetration direct sell would provide (Smithyman, 1985; Middleton, 1980). Override commissions and incentives based on volume were made available to agents as is seen in the Marketing Agreement in Appendix B.

But the question was could agents really influence customers and practice preferential selling ? Welburn (1987, pp14) even forecasts the emergence of two types of agents based on their influencability - "the new vulnerability of agents and their clients to bias leads to the evolution of two types of agent, some promoting their services on the basis that they are comprehensive and impartial, and others promoting the flights of favoured principals."

5.3.5 Staff profile

Staff were considered the most important resource by several writers, and the average staff profile of an agency was an area of interest. Whether staff were specialised, had financial incentive schemes, training, education, experience and qualifications were all considered crucial to the company's performance (Beaver, 1975; Saltmarsh, 1986), and these were areas on which data was sought.

5.3.6 Systems profile

A clear picture of the types of technology used by the agent was sought. The penetration of systems in travel agencies, and their applications were points of interest. For instance Smithyman (1985) opines that PRESTEL was used mainly for brochure ordering and information, and only minimally for reservations. The extent of use of Front Office as well as Back office systems (DPAS and Accounting), Electronic Mail and Electronic Funds Transfer were to be investigated. There were contentions as to the advantages and disadvantages to travel agents from the use of technology, and their reason for automating, and these were set out as hypotheses for further investigation.

CRSs were seen as the key to travel agency survival (Gauldie, 1989). New technology was considered the panacea to many problems faced by agent, and provided them with greater opportunities and new markets. For instance it enabled more efficient information storage, maintenance and retrieval, instant communications, reliability and better

image (Smithyman, 1985; Welburn, 1987; Saltmarsh, 1986).

5.3.7 Productivity figures

One of the first points brought up in the study was the fact that several agents were found to be operating with very low profitability and low productivity (expressed here as turnover per employee). Swinard (1985) contended that there were more profits to be had from selling fish and chips, than there were from travel retailing. Some explained the low margins in travel agents by the high competition encountered (EIU, 1968), while others related company size and type of business activity to falling levels of profitability (ABTA, 1984).

Euromonitor (1985) laid down that 22% of ABTA agents had a turnover under £200,000 per annum, while three years on in 1988 the figure for an average travel agent's turnover was still quite low at £300,000 per annum (Hulse, 1988). Of the component elements of costs it was estimated that 57% were devoted to staff costs (Saltmarsh, 1986) while Stevens (1985) cautioned that it should not be over 50%. He provided certain 'thumb rule' target ratios for agents, including atleast an 8% Return on Investment Ratio, and Pre-tax profit to be between 10-25% of revenue. How did this sample of agents measure up ? It was therefore felt that a closer look at travel agency financial performance was essential.

5.3.8 General opinions

Some of the data above could not be quantified or presented a numerical hypotheses, as they related to the opinions of travel agents. To explore these attitudes it was decided that a series of statements be investigated on, and the opinions of agents on the following fourteen statements relating to various aspects of travel agency behaviour was sought.

1) Multiple travel agents will get a larger market share because of the computer systems they are able to use.

2) A travel agent without viewdata systems can do as well as one with the systems.

3) Travel staff will try and promote those services whose reservation systems they find easy to use.

4) Independent agents need to group into consortia to be able to gain benefits of computerised systems.

5) The average customer finds a travel agent more credible if he uses computers in his office.

6) Travel agency staff are wary of losing their jobs due to the introduction of computers.

7) It is the responsibility of principals, not the agent to do marketing and promotional tasks.

8) Travel agents must do preferential selling of products to obtain override commissions.

9) Travel agents will face a threat from other outlets like supermarkets, mail order, department stores etc.

10) There is less of personal contact and less of a rapport between agents and principals because of automation.

11) The travel agent has assumed a role similar to a computer operator because of automation.

12) With the increased use of automation, staff will need less experience and knowledge of facts.

13) In the next ten years travel agents will have less of a booking role and more of a consultative role.

14) There is a lack of staff training in the use of computer and viewdata systems.

5.3.9 Success factors

Since one of the aims of the study was to identify and rank the causes of productivity advance in travel agents, certain contentions about these ´success factors´ were discussed in Chapter 4. The evidence collected was from literature as well as field interviews. It was hypothesised that all of these factors did influence travel agency productivity, and agents opinions were sought in order to establish the relative importance of each from their point of view.

5.4 Main Hypotheses Drawn Up

The contentions classified and discussed above cover a range and magnitude of issues. The ones that seemed "testable" and relevant to the central objectives of the thesis have been summarised and developed into research hypotheses or contentions. These are presented below as a series of several statements, again categorised as above. The hypotheses numbered H1 to H17 are analysed further in the Analyses detailed in Chapter 7.

Company profile

H1   There is a variance in the profile characteristics of independents, multiples, and combined tour operators and travel agents.

Client Profile

H2 Travel agents have higher sales over the counter, than over the telephone.

H3 Travel agents have a low percentage of repeat business.

H4 Their market is localised.

Product Profile

H5 There is a variance in the product mix sold by different agents.

H6 Multiples make higher profits per individual services.

Influence

H7 Certain products are ´high advice´ products.

H8 Travel agents can often influence customers´ product choice.

H9 Principals substantially support travel agents.

Staff Profile

H10 The general staff profile of agency staff is one of average education and experience levels, with a low degree of training and specialisation.

Systems profile

H11 The penetration of systems among travel agents is low.

H12 The many applications of the systems are not fully exploited by travel agents.

H13 The use of computer systems has changed several working practices for travel agents.

H14 Opinions on the advantages and disadvantages of using computers vary.

Productivity figures

H15   Travel agents have low productivity and profitability figures.

Attitudinal profile of travel agents

H16   There is a variance in the perception of different types of travel agents on statements relating to their role, future and the use of technology.

Productivity Determinants

H17   Opinion vary as to what factors constitute 'success' in a travel agency.

Where feasible the contentions were subjected to Hypothesis testing. Other statistical tests were also performed on the variables (discussed in 6.7.1) to establish whether the contentions above were credible or not. The study yielded much original data on travel agents and their functioning, as a result of the analysis of the variables collected in the sample survey.

CHAPTER 6   <u>SURVEY DESIGN AND METHODOLOGY</u>

6.1   INTRODUCTION

6.2   THE STAGES OF THE RESEARCH

6.3   DATA COLLECTION
        6.3.1   Desk Research
        6.3.2   Field Research

6.4   INITIAL FINANCIAL ANALYSIS
        6.4.1   Setting up data for OPTSUR
        6.4.2   Comparing Productivity Measures

6.5   DEVELOPMENT OF THE QUESTIONNAIRE
        6.5.1   Pre-testing
        6.5.2   Pilot questionnaire
        6.5.3   Main questionnaire

6.6   THE MAIN SURVEY
        6.6.1   Sampling Frame and selected companies
        6.6.2   Response Rates
        6.6.3   Variables measured
        6.6.4   Measurement Scales

6.7   STATISTICAL ANALYSIS
        6.7.1   Statistical Procedures and Methods Used
        6.7.2   Data preparation for OPTSUR

6.8   INFERENCES AND FOLLOW-UP STUDIES
        6.8.1   Points for further Investigation
        6.8.2   Time and Motion Studies

6.1 INTRODUCTION

The main aims set out in the research were stated in the Introduction, and are repeated briefly below.

1) To assess a range of behavioural patterns of the travel agent.

2) To measure and classify the labour productivity of travel agents, so as to identify trends.

3) To attempt to identify the determinants of labour productivity in travel agents, in particular, any impact from travel agency automation.

6.2 THE STAGES OF THE SURVEY

The research methodology used in this study, for the exploration of the aims stated above took six stages, and is represented diagramatically in Figure 6.1.

```
 ┌─────────────┐      ┌─────────────┐       ┌─────────────┐
 │      1      │      │      2      │       │      3      │
 │    DATA     │      │   INITIAL   │       │ DEVELOPMENT │
 │ COLLECTION  │      │  FINANCIAL  │       │   OF THE    │
 │             │      │  ANALYSIS   │       │QUESTIONNAIRE│
 └─────┬───────┘      └──────┬──────┘       └──────┬──────┘
       │                     │                     │
       │                     ▼                     │
       │             ┌─────────────┐               │
       │             │      4      │               │
       └ - - - - - ->│ MAIN SURVEY │<- - - - - - - ┘
                     └──────┬──────┘
                            │
                            ▼
                     ┌─────────────┐
                     │      5      │
                     │ STATISTICAL │
                     │  ANALYSIS   │
                     └──────┬──────┘
                            │
                            ▼
                     ┌─────────────┐
                     │      6      │
                     │INFERENCES AND│
                     │FOLLOW-UP STUDIES│
                     └─────────────┘
```
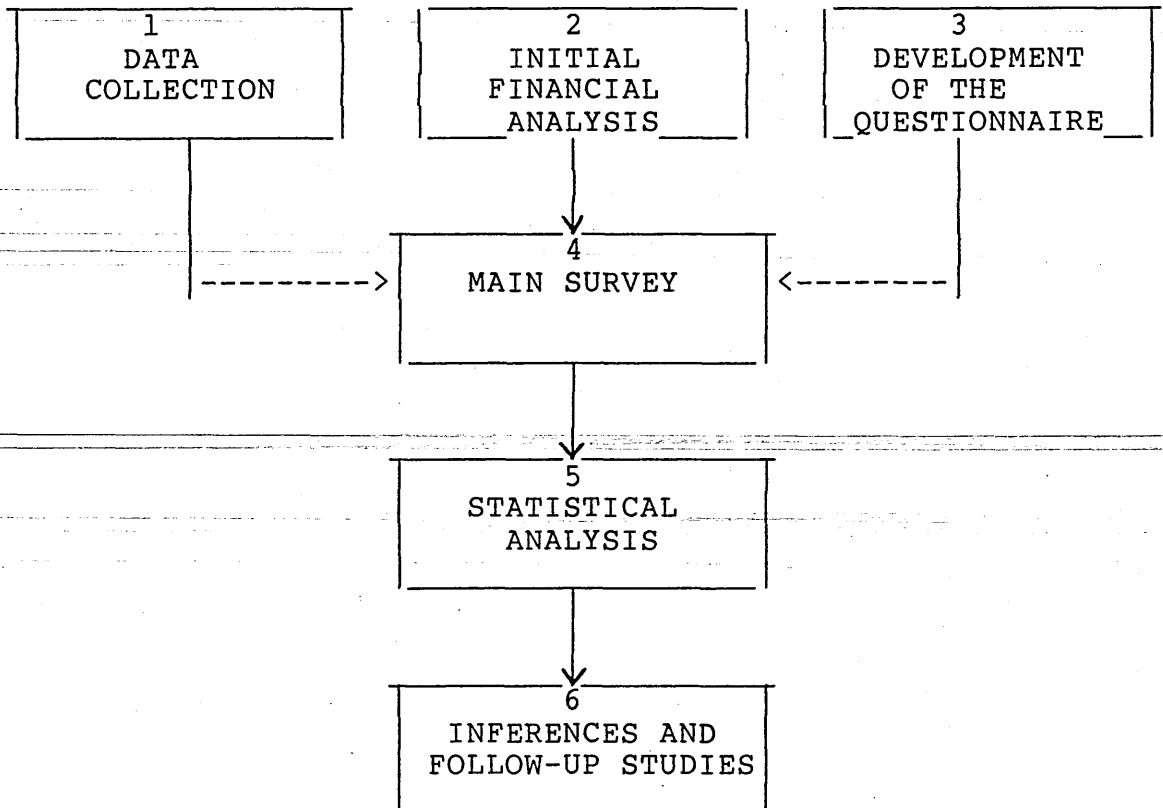
Figure 6.1   THE MAIN STAGES OF THE RESEARCH

6.3 DATA COLLECTION

In order to collect data to explore the drawn up hypotheses a review was made of the many different approaches to data collection. The most commonly used and suggested techniques are as follows (Moser and Kalton,1971; Holt et al 1964) :-

1) The Interview Method
2) The Questionnaire Method
3) The Observation Method

While each method has its inherent advantages and disadvantages, taking into account the paucity of data on the research topic (i.e. travel agency behaviour, productivity and automation) all three methods were employed, but at different stages of the research.

The main constraints of using the Interview method to collect data as the basis for the study are those of cost, time and coverage. However, to get a ´taste´ of travel agency and industry opinions and to provide a framework for the more intensive postal survey, several personal interviews were undertaken. While the personal interviews yielded vital information and aided the formulation of the central research hypotheses, they may have contained a bias as they were constrained by area and time. It was important to get a picture of travel agents throughout the UK, and therefore a postal survey sampling travel agents throughout the UK was chosen as the most feasible data collection method.

The observation method proved invaluable in the Time and Motion Studies (undertaken in collaboration with Air

Research Ltd) that followed the main postal survey. It enabled the exploration of issues and questions thrown up by the postal survey. In adopting this approach of collecting facts and figures, the attempt was to overcome the shortcomings of each method as far as possible. Summing up in the words of Moser and Kalton (1974,pp 239) "a combination of data methods is often appropriate to make use to make use of their different strengths."

6.3.1 <u>DESK</u> <u>RESEARCH</u>

An extensive review of the relevant literature was undertaken, to provide the basis for a coherent theoretical model of travel agency behaviour and labour productivity, and to develop and formulate the research hypotheses.

The three main spheres of data exploration are represented below in simplified form. The main purpose of the research is to explore the area of overlap, represented by the shaded parts of Figure 6.2 below. However the data available did not cover this area and the overlap was more between two related spheres rather than all three. The first figure illustrates the desirable pattern of data availability, while the second (Figure 6.3) indicates the pattern in which the data was actually available.
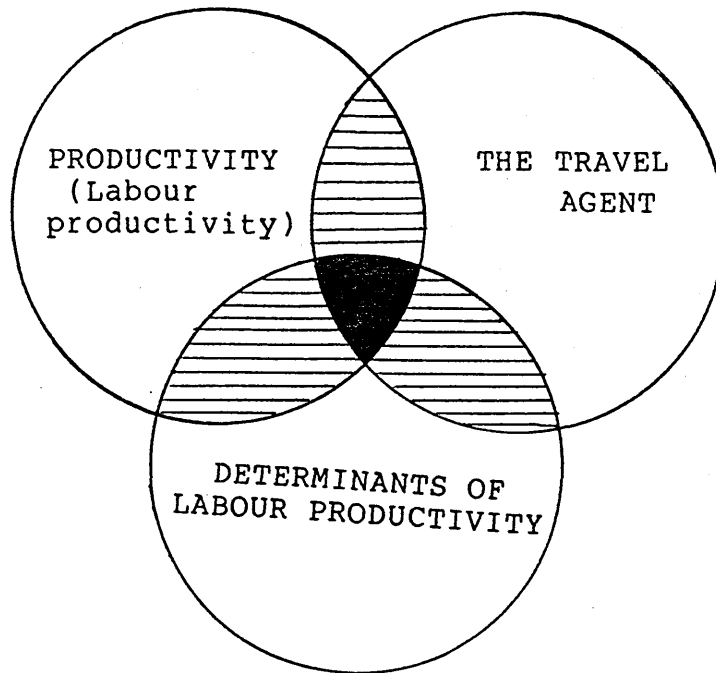
Figure 6.2 : DESIRABLE PATTERN OF DATA AVAILABILITY
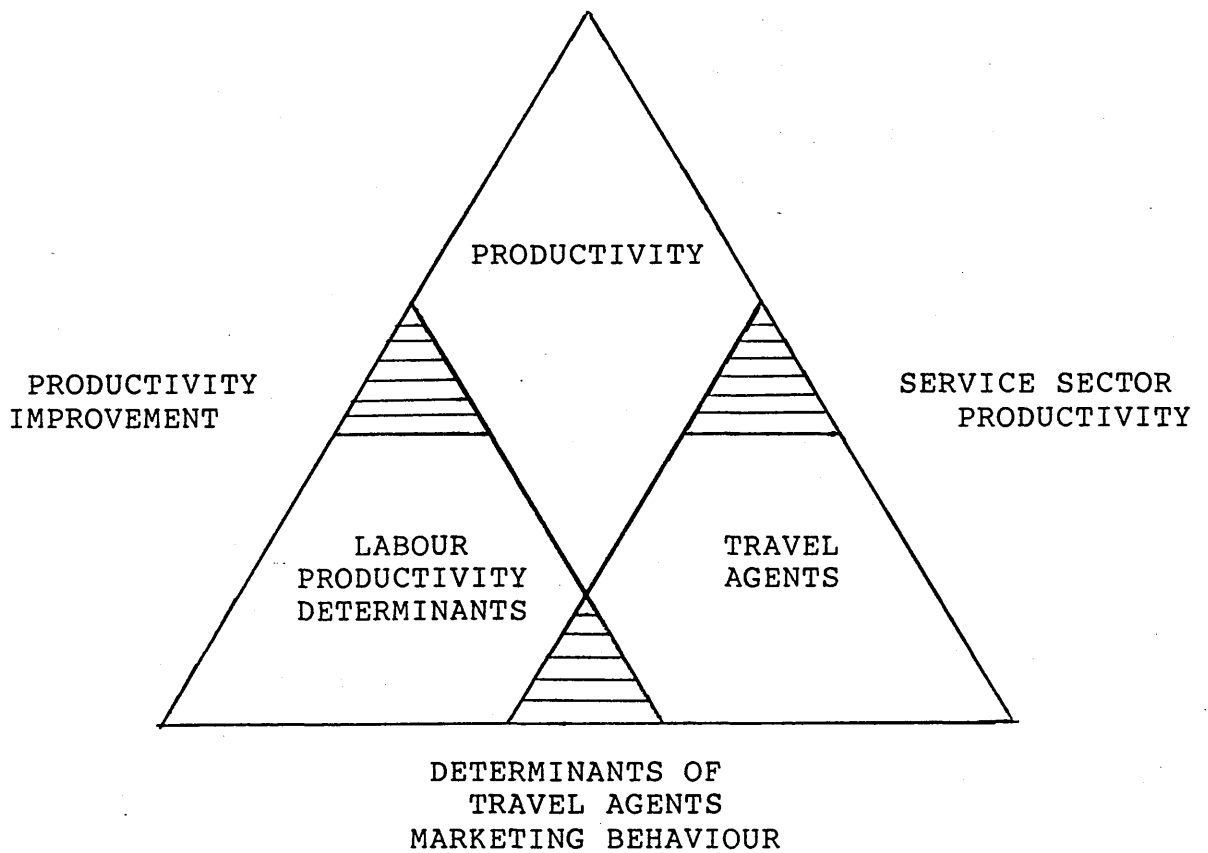
Figure 6.3 : ACTUAL PATTERN OF DATA AVAILABILITY

These three main areas were thoroughly researched and were covered in Chapters 1, 2 and 3 of the thesis respectively. Sources of desk research included all relevant material in books, periodicals, special studies, company reports and other research theses. This part of the research, the literature survey, was an important part of the theses for the following main reasons :

1) It permitted an assessment of the current state of knowledge in the field.

2) It assisted in the formulation of hypotheses.

3) It contributed to the design of questions to be used in the field work.

4) It provided a basis for comparison between the results of the field work and previously discovered conclusions.

5) It helped in providing new insights into the subject of the thesis.

6) It helped select a suitable method for measuring certain parameters in the study. (eg. Productivity measurement using Farrell´s EPF theory, additive method to measure value added).

6) It highlighted any paucity of data that existed, and identified areas to be explored in the subsequent field research and industry interviews.

Both qualitative and quantitative data were collected in the desk research, and this was supplemented by the different stages of the field research which is outlined next.

6.3.2   FIELD RESEARCH

The field research which involved collecting "original" data
i.e. data incepted by this study, consisted of five parts.

i)   Travel industry interviews
ii)   Pre-testing the questionnaire (open format)
iii) Pilot Survey
iv)   The main survey
v)   Time and Motion Studies

(Points ii to v are outlined in the next few stages of the
research. Even though these were part of the data collection
process, since the survey was large and forms the basis of
the   thesis,   it seemed appropriate to treat them as
individual stages of the research.)

TRAVEL INDUSTRY INTERVIEWS

This stage consisted of building up data and hypotheses upon
which the investigative and analytical part of the study
would be based. The desk research outlined the broad areas
of interest, and the travel industry interviews described
below provided more specific information on the focus of the
study. The empirical content of the study required the
collection of empirical evidence from personnel in the
travel industry, and a series of interviews were arranged
with travel agents and other members of the travel industry,
between March and December 1987.

A   TRAVEL AGENCY INTERVIEWS

A sample of 15 agents were interviewed in London, Guildford
and   Woking.   These   areas were chosen due   to   their

accessibility and in view of the time and personnel (just one researcher) available.

Multiple agency outlets, independent agents, in-store agents were all represented in the sample, dealing in leisure, business, specialist travel, and tour operation. A series of questions had been drawn up, based on the desk research, and in keeping with the aims of the thesis. These were however to serve as an open framework, prompting original answers from the respondents. The interviews lasted from 20 to 45 minutes, with an average time of 38 minutes. Of the 15, 10 of the interviewees were the branch manager, while the remaining were held with senior counter staff. The attitude of all interviewees was very helpful and forthcoming.

The open questions put to the interviwed agents covered a variety of areas, the main ones discussed were as below :-

1) The role of the travel agent - to clientele and to the principals that he represents.

2) The criteria used for measuring company and staff performance.

3) On what basis company objectives and targets are determined.

4) Staff related factors - staff training, staff recruitment criteria (including age, education, experience), staff incentives offered.

5) Main services offered, share of each in overall sales, revenue/ profitability of each.

6) Relation with principals,and other travel trade bodies. Promotional activity - whether agents have a passive or active marketing role.

7) Their target market, their origin, socio-economic group, knowledge of services, how much advice is asked and to what extent agents can, and do influence customer choice.

8) Agency operation and procedure - if automation was used details like date introduced, reason for introduction,

systems used, extent of usage, main applications, initial cash outlay, staff to terminal ratio, perceived advantages and disadvantages, training, staff and management attitudes, and the noticed (if any) impact on staff productivity and attitudes, turnover and clent reactions. Where automation was not installed, details of manual systems, advantages and disadvantages, and attitudes to automation were queried.

9)   What they see as the causes of labour productivity and company performance.(Labour productivity here was defined to them as value added per employee, but most were unfamiliar with the measure, and based determinants on turnover or profitability per head of staff.)

10) Financial data - turnover, profits, capital employed, staff numbers and costs, depreciation etc. were data essential to perform the financial analysis of the thesis, to establish productivity indices across the sample.

11)   General attitudes on agency future - 'march of the multiples' theory, domination of larger independents, impact of market trends on survival issues, views on consortia and new markets and products.

The discussion provided invaluable information on a cross section of agency attitudes to a variety of issues explored in the thesis.

B   TRAVEL INDUSTRY INTERVIEWS

Useful insights into travel agency behaviour was gleaned from travel principals, academics, industry consultants, regulatory bodies (like ABTA, ETB etc), market research concerns and firms dealing with travel industry technology (eg. TRAVICOM, PRESTEL etc). Most of the information was collected from personal interviews with the concerned parties at their premises. Other modes used were via telephone and letter, mainly when specific information was required. In addition, visits were made to the World Travel Market between 1986 and 1988, to supplement and update information collected previously.

Together with the data gleaned from the desk research, these initial interviews formed the basis for drawing up the hypotheses (outlined in Chapter 4), deciding what information could be collected via the postal survey, and formulating the pilot questionnaire.

6.4   INITIAL FINANCIAL ANALYSIS

In the initial interviews detailed above it was revealed that the agents interviewed were quite often not the right source of information to shed light on specific financial figures, and more often unwilling to do so. Due to the confidentiality of such information, instead of specific figures it was decided that agents would be asked to choose from a range of alternative financial figures, in the pilot survey. However, since the study required a measure of labour productivity (value added per head) to be compared with other financial variables to obtain an Efficiency production function, a pilot study of this was considered essential to the formulation of the questionnaire.

6.4.1 Setting up Data for OPTSUR

It was decided that Farrell's concept of a production frontier be 'put to the test' with a small sample of travel agents for whom financial data was obtainable. A random 50 travel agents were selected and their balance sheets were ordered from Companies House in London. The obtained data was on microfiche, and the balance sheets and other accounts were scoured to produce financial measures of value added, capital employed, staff numbers and remuneration. The records revealed however that only 10 agents out of the 50 selected declared enough information to obtain the data

required as inputs into Farrell's model. The other agents gave very abbreviated balance sheets, and most had no indication of staff numbers or payroll. Since this study looks at labour productivity, these 40 agents were disregarded for the initial testing, and the remaining 10 were used in the exercise. To prepare the basic financial data for analysis using OPTSUR required several steps :-

1) Value added was computed by the summation of depreciation, staff remuneration and pre-tax profits.

2) The particular month when the financial records had been published varied from company to company. To remove the distortionary effect of inflation, all data was converted to constant prices for December 1986, using the Retail Price Index.

3) The data was normalised to unit output, that is unit value added.

Table 6.2 represents the values of the input variables, worked out as detailed above for the ten travel agents. The basic input data in columns 1 to 3 represent the number of staff, staff costs and capital employed. Column 4 represents value added per head for each company.

Table 6.1   NORMALISED INPUT FACTORS

	STAFF NOS.	STAFF COSTS	CAPITAL EMPLOYED	VALUE ADDED PER HEAD
1.	1019	7698	10075	9.8
2.	1150	7944	5534	8.7
3.	1956	16520	14347	5.1
4.	1462	8857	7600	6.8
5.	697	9462	3050	14.3
6.	949	8544	4640	10.5
7.	1176	9705	1764	8.5
8.	988	8375	10067	10.1
9.	799	6790	3162	12.5
10.	986	9250	5894	10.1

Source   Financial Records from Companies House, London

OPTSUR was then run against the input variables and the EPF was calculated. The solutions produced are detailed below, with 3 solutions in the first dimension, 3 in the second and one in the third.

OUTPUT FROM RUNNING OPTSUR

```
COL NO 1 ROW 5 MIN =  697.0000
COL NO 2 ROW 9 MIN = 6790.0000
COL NO 3 ROW 7 MIN = 1764.0000
COL NO 4 ROW 8 MIN = 1155.0000
```

INITIAL SOLUTION IN 1 DIMENSIONS

```
5  -2  -3           0.14340   0.00000   0.00000

   1  68.4    2  60.6    3  35.6    4  47.7    5 100.0
   6  73.4    7  59.3    8  70.5    9  87.2   10  70.7


  -1   9  -3           0.00000   0.01470   0.00000

   1  88.2    2  85.5    3  41.1    4  76.7    5  71.8
   6  79.5    7  69.9    8  81.1    9 100.0   10  73.4


  -1  -2   7           0.00000   0.00000   0.05660

   1  17.5    2  31.9    3  12.3    4  23.2    5  57.8
   6  38.0    7 100.0    8  17.5    9  55.8   10  29.9
```

INITIAL SOLUTION IN 2 DIMENSIONS

```
5   9  -3           0.00095   0.00004   0.00000

   1  80.6    2  72.8    3  40.9    4  58.8    5 100.0
   6  82.9    7  68.4    8  80.9    9 100.0   10  79.0


  -1   9   7           0.00000   0.00007   0.00016

   1  46.7    2  68.9    3  28.9    4  54.4    5  85.10
   6  73.8    7 100.0    8  45.7    9 100.0   10  62.4


   5  -2   7           0.00095   0.00004   0.00000

   1  38.4    2  57.1    3  25.1    4  42.2    5 100.0
   6  68.5    7 100.0    8  38.7    9  92.7   10  57.6
```

```
        5    9    7              0.00042  0.00003  0.00016

            1  44.1     2  62.6     3  27.8     4  47.9     5  95.3
            6  72.2     7  95.2     8  44.0     9 100.0    10  61.6
```

Table 6.2 below is a tabulation of the last four OPTSUR results and the overall productivity measure of value added per head in the fourth column. The numbers next to the EPF or value added per head ratios, represent the rank of the particular company in the productivity league table.

| Table 6.2 | | | | Comparison of Productivity Measures | | | | | |

| CO. | EPF VALUES FROM OPTSUR RESULTS | | | | | | | OUTPUT Va/head | |
	2 dim Case 1		2 dim Case 2		2 dim Case 3		3 dim Case 1		
A.	80.6	4	46.7	7	38.4	6	44.1	8	9.81	6
B.	72.8	6	68.9	4	57.1	5	62.6	5	8.69	7
C.	40.9	9	28.9	9	25.1	9	27.8	10	5.11	10
D.	58.8	8	54.4	6	42.2	6	47.9	7	6.84	9
E.	100.0	1	85.1	2	100.0	1	95.3	2	15.22	1
F.	82.9	2	73.8	3	68.5	3	72.2	4	10.53	3
G.	68.4	7	100.0	1	100.0	1	95.2	3	8.5	8
H.	80.9	3	45.7	8	38.7	7	44.0	9	10.12	5
I.	100.0	1	100.0	1	92.7	2	100.0	1	12.5	2
J.	79.0	5	62.4	5	57.6	4	61.6	6	10.14	4

6.4.2 Comparing Productivity Measures

When staff numbers and remuneration were taken as the two

input factors, Companies E and I achieved the optimal EPF value or 100 %. This means that with the least amount of both staff and payroll they produced the same level of output (unit value added) as the other companies. Investigations into the companies might reveal the reasons for this variance. They could be for instance from staff motivational factors, labour aiding devices (cutting down staff numbers) or the company having a lower cost base.

When payroll and capital employed were considered in the EPF isoquant, G and I were on top, followed by E. This indicated that G and I needed the lowest capital investment among the group to produce the unit output. E, which was the most efficient in the first comparison above used a higher capital input, and its EPF dropped to 85.1%. Case 3 looked at staff numbers and capital employed as inputs. Companies E and G were 100% efficient, using the best combination of staff and capital to produce this optimal output.

When all three factors were taken into account, to construct an EPF in the 'third dimension', I proved the most efficient, followed by E and G. The pure value added per head measure also picked out E (ranked one) and I (ranked two) as highly productive, but relegated G to eighth position. OPTSUR in the third dimension looks at capital employed, staff remuneration and staff numbers to decide on the company's productivity. The value added per head figure did NOT consider payroll or capital employed and is therefore not as complete a measure as the EPF computation. This initial test analysis using OPTSUR has proven the applicability of the EPF concept and identified the financial variables required for its calculation.

6.5 DEVELOPMENT OF THE QUESTIONNAIRE

The questionnaire used in the study was developed largely through an extensive examination of relevant literature, discussions with travel industry personnel, and by open-ended interviews with travel agents. The questionnaire was refined in a pre-testing stage, and further refined to its final form after a pilot survey. The development of the questionnaire is discussed in three sections - pre-testing, the pilot survey form, and finally the main questionnaire.

6.5.1 PRE-TESTING THE QUESTIONNAIRE

As a pre-cursor to establishing a questionnaire by which to collect primary data, an open format survey was conducted. 25 forms were sent out to a random sample of ABTA travel agents around the UK. These agents had been contacted by telephone before, and after a brief introduction to the study, their co-operation was sought. It was on their consent that the questionnaires were sent to them. This would probably account for the high response rate obtained, despite the fact that the survey was open-ended. 15 forms were returned, of which 12 were usable, giving a Response Rate of nearly 50 %.

The survey form was 4 pages long, and divided into four sections. Section A collected ´facts´ on the company including information pertaining to the type of company, focus of business, number of branches, services offered, turnover composition, staff etc. Section B consisted of 8 questions, open to interpretation by the respondednt and

concerned travel agency role, productivity and staff and company performance. Section C was devoted to questions on computer usage. Respondents were asked if they used/or were likely to use front (viewdata systems/CRS) and back-office (accounting/business systems) automation. Section D covered opinions of travel agents towards productivity, information technology and transaction handling.

A questionnaire evaluation form was also sent to the interviewees where they were asked how long it took to complete the questionnaire, if any questions were unclear or ambiguous, their general opinion on the questions, and if any questions could be added or deleted.

This initial open survey yielded useful information, that was combined with the information gleaned from the personal interviews (Section 6.3.2) to formulate the pilot questionnaire. The open questions were aggregated and incorporated into the pilot questionnaire as 'coded' questions that could be ticked. Some of the main answers obtained in the Pre testing stage are presented below in summary.

VARIABLE	RESPONSES
Determinants of a travel agents productivity	Good, helpful, friendly staff Good window display Advertising Staff who are capable of high average turnover Efficient use of technology Repeat business Volume of business Profitability of average transaction

VARIABLE	RESPONSES
Major Resource Inputs	Staff expertise Efficient information retrieval Efficient document processing Efficient accounts processing Accurate information from suppliers Staff training Staff educational level Advanced technology
Major Company Outputs	´Service´ Unbiased advice and service Information for solutions to client´s travel problems ´Peace of mind´
Company performance criteria	Profit Clients appraisal reports Internal validation of services
Company Objectives and Targets	Staff time utilisation Past year´s experience of areas needing improvement Profitability
Changes/ effects Noticed with the introduction of computers	Paperwork less tedious Paperwork processed more quickly Profit maximised Transaction time minimised Instant access to financial information (removal of complex written and filed ledgers) Greater control Greater quality control Improved efficiency Enhanced reputation

6.5.2 PILOT QUESTIONNAIRE

Before the final testing and main data collection in stage 3, a pilot of the formulated questionnaire was undertaken. The open pre-test questionnaire was rewritten, with most of the open questions used to glean information at the testing

stage, redesigned to secure 'closed' questions. The length of the questionnaire was shortened and certain items were modified or deleted. These changes combined with using coded responses significantly reduced the length of the interview. The pilot questionnaire was mailed to 200 ABTA agents at random, and out of the 35 replies received, 30 were complete and usable.

The attempt to obtain financial data for calculating value added had proved unsuccessful at the pre-testing stage. This was mainly because agents had been asked to give specific figures relating to costs/ staff costs/ profit/ commission income etc. However all the interviewees in the pre-testing had responded to Question 10 which presented ranges of turnover to choose from, as compared to only 15% who gave specific financial information.

The pilot questionnaire therefore tried a different approach and included five ranges for financial figures, combining profit and depreciation figures into one category. The financial information was vital to the survey as it was to be the basis for computing the agencies productivity ratios. Details of the variables measured and type of measurement scale used follow in Section 6.6.

The pilot questionnaire received a Response Rate of 15% and all the questionnaires returned were complete and usable. The financial information had been obtained as agents had indicated into what range their figures were most likely to lie. Some of the questions which had still been open-ended were coded up for the final questionnaire. Most respondents found it difficult to estimate the volume of transactions handled by staff per day. Since this would at best be a

'guesstimate', and could not be related to other data credibly, it was omitted in the main questionnaire.

Not enough information had been elicited on the travel agents perception of his 'market' and four new questions were introduced in Section B of the main questionnaire, which asked for details on client profile. A question was also added to check how many competitors travel agents felt they had in their geographical area of operation.

The financial data obtained could be subject to different interpretations, so the final survey included a brief definition of the financial terms for this study. The year and month of the figures were also obtained in order to inflate/deflate figures across the sample, to iron out inconsistencies. All questions had coded responses and some provided an option of 'OTHER' to account for responses not allowed for.

6.5.3 THE MAIN QUESTIONNAIRE

After successfully piloting and amending the survey questionnaire, the final format of the survey form was drawn up. It is presented in Appendix C. It comprised six sections (A to F) and covered six A4 pages. To enable ease of data collation, a column was added ('for office use only') into which codes could be entered, and later input onto data cards for analysis by SPSSx (detailed in Section 6.7). The information collected from the final questionnaire reflected the aims of the research and are summarised again below :-

1. To obtain an overall picture of travel agency nature, behaviour and functioning.

2. To attempt to quantify a measure of labour productivity of travel agents (as value added per head) and to correlate this chosen productivity index with other measures.

3. To attempt comparison between groups of travel agents with different company profiles and productivity ranges and establish or disprove hypotheses drawn up in Chapter 5.

The questionnaire in its final form was a blend of questions eliciting factual information as well as information on respondents attitudes, opinions and assumptions. The scales of measurement chosen and the variables measured in the final survey questionnaire are outlined in Section 6.6.

6.6 THE MAIN SURVEY

The main survey which involved the mailing and collection of the finalised questionnaire form to a random sample of travel agents, is described below. The main variables measured, the sampling frame used, response rates, rating scales are all detailed.

6.6.1 Sampling Frame and the Selected Agents

A suitable sampling frame from which to select a representative sample was one of the first tasks of the survey. A sample frame is the list of the entire population from which items can be selected, and this group of items taken from the population for examination makes up the sample. Literature on travel agency numbers indicated that while regulation and membership (ABTA and AITA) associations do exist, there are several hundred non-registered travel shops, including the so called 'bucket-shops'. Saltmarsh

(1986) estimated that besides the 6340 ABTA registered
members and the 500 registered with other associations,
there were some 1000 other travel outlets operating in
Britain. The ITQ Report on travel agents (1984) put this
figure at an even higher 5500.

Addresses and data of these non-ABTA agents would have been
obtainable only via laborious searches through telephone
directories, local press and trade advertisements. Since the
study focuses on the distribution function of the travel
agent and his relationship with the principals he serves,
ABTA agents were chosen as the sampling universe, because of
its stabiliser scheme tying up sales of major principals
through ABTA outlets only. Also, ABTA membership figures and
addresses were easily attainable, and a random sample of
2500 offices were chosen from a total of 7422 retail travel
outlets in Britain (approximately one in three). The sample
frame was the 1987 ABTA list of members, but was restricted
to those members whose class of membership was R or RT,
excluding T status members. (ABTA defines three classes of
membership by letter codes : R = Travel Agent, T = Tour
Operator, RT = Dual Status.)

The sample was not stratified in any way as a geographical
spread was desired, as well as representatives from multiple
and independent agencies. (A random sample is one where
every item in the population has an equal chance of being
included. While this does not guarantee a sample free from
bias, the method of selection is free from bias). The random
sampling was done by ABTA's membership division and two
copies of the final address list was purchased, supplied on
sticky-back labels. It had been requested that the labels

were addressed to the Branch Manager of the outlet by name if available, or simply marked to 'The Branch Manager'. Two copies of the address labels were obtained to allow the sending of follow-up letters to boost survey responses.

6.6.2 Response Rate

A Post Office Business Reply license was obtained, and prepaid self-addressed envelopes were mailed to the random sample together with the survey questionnaire and covering letter. A total of 365 responses were received in the first four weeks after the initial mailing. Follow-up letters were sent to all respondents in the sample, requesting the forms to be completed and sent back if they had not already done so. A copy of the questionnaire was enclosed again in order to encourage replies, and this resulted in a further 148 returns.

By the cut-off date after the second mailing a total of 513 replies were received, of which 494 were complete and usable. This gave an overall response rate of 19.8 % (i.e. usable responses only), which is considered to be quite good for a survey of this type and to be adequate in providing information to support statistical inferences drawn from the data.

6.6.3 Variables measured

The questionnaire contains 214 variables. The variable list is presented in Appendix D. In an attempt to understand the relevance and nature of the variables they are categorised

below as those that are general, characteristic, subjective, factual, financial and attitudinal.

i) The general variable list consists of questionnaire elements not directly related to the survey matter, but are included for reference or filing purposes. Examples are variable 1 (questionnaire sequence number) and variable 213 (time taken to fill in the questionnaire).

ii) The characteristic variable list comprise those which profile the company (variables 2-7,29,30) and detail the type of automation used (variables 99-118). These variables are basic features of the company (eg: Office location) which can be considered as independent, but with influences on other groups of variables.

iii) The subjective list of variables is relatively large, and refers to all those questions that have elicited a subjective response, based on business knowledge and reasoning. They are not attitudinal (i.e. influenced by the respondents own opinions), and are generally quantifiable (eg: in percentage terms - as for variables 119-140, exploring usage levels of computer applications, or by scales of measurement like high, medium or low). This group also includes variables 8-27 (services offered and their profitability), variables 31-40 (detailing their market profile) and usage levels of the computer systems housed (variables 99-118).

iv) The factual category of variables comprise those that are facts, but not necessarily permanent features of the company like the characteristic variables. All the staff information collected (variables 62-96) and information pertaining to training (variables 167-168) fall into this category.

v) The group of financial variables are self explanatory, and include variables 174 to 180.

vi) The attitudinal category of variables comprises those responses which tested the attitude of repondents to a statement or query, where replies were coded into attitudinal scales like agree/neutral/disagree. This group included variables 41-61

6.6.4 MEASUREMENT SCALE

The type of measurement scale used varied depending on the particular variable involved. Stevens (1946) in his original work on the topic classifies four common scales of measurement. All of these have been used in measuring the survey's variables, with the ordinal scale used the most.

i)   The Nominal Scale involves only the classification or naming of observations, and numbers used can be arbitrarily assigned, without attaching 'sense' to their numerical value. All of the characteristic group of variables outlined above used the nominal scale. An example is variable 29 which classifies respondents into 13 groups (1 to 13) depending on the particular region they are situated in.

ii)   The Ordinal Scale involves the grading of one observation against another. This type of meaurement is considered suitable for responses involving perception and the cognitive components of behaviour. Most of the subjective and attitudinal variables were measured on a three or five-point ordinal scale. Examples are the responses to statements reflected in variables 182-196, where respondents had to indicate whether they Agree strongly, Agree, Are unsure, Disagree or Disagree strongly, graded from 1 to 5.

iii)   The Interval Scale permits us not only to sort and rank observations but also to establish the magnitude of the difference separating each observation. However the data need not possess an absolute zero. Examples in the survey would include variables 32-40 which enable respondents to indicate a percentage value into which they feel their market split lies. So we can observe that one agent has a 50/50 split of new/repeat business, while another has a 20/80 split. The difference observed is based on the relative interval rather than on the absolute value.

iv)   The Ratio Scale is considered the highest order of measurement, and unlike the interval scale it has a known and absolute origin. Under the ratio scale for instance we can observe how many more travel outlets one company has as compared to another (variable 4). The factual group of variables used the ratio scale, while the financial variables were collected on an interval scale but later converted to a ratio scale.

6.7 Statistical Analysis

Harper (1982,pp 2) defines Statistics as " the scientific approach to information presenting in numerical form that enables us to maximise our understanding of the reality reflected by that information." Statistics can be of two main types - descriptive and inferential. The former deals with ways of describimg large masses of data, while the latter enables a conclusion to be drawn from given data. Both Statistical modes have been utilised in the study, and involve the use of the methods in 6.7.1 below.

Before proceeding with an Analytical Study of the data collected, it was first considered if there was the effect of non-normality in the data. However the present study concerned a sample size of sufficient magnitude to apply the 'Central Limit Theorem' for approximate normality of the data analysed.

6.7.1 Statistical Procedures and Methods Used

The first task of the data analysis was to determine the basic distributional characteristics of each of the variables to be used in the subsequent statistical analysis. Information on the distribution, variability and central tendencies were calculated, giving the mean, median, mode and standard deviation of the frequencies.

After examining the distribution of each of the variables, the next step was to investigate some sets of relationships among these variables for the purpose of testing the study's hypotheses outlined in Chapter V.

Since the majority of variables under investigation were

measured on ordinal levels, contingency table analysis was used extensively because it is considered by many statisticians as the most appropriate and commonly used analytical method in the social sciences. These joint frequency distributions were statistically analysed by the Chi-square statistic (χ^2) to determine whether or not the variables were statistically independent. Two measures of association were also computed (χ^2 only tests if the variables are independent) - the Pearson correlation statistic (R) and Kendalls tau (T) both of which give indications of the strength of association between the variables.

The 0.05 level of confidence has been accepted in this study as the basis for accepting or rejecting the Null hypothesis. SPSSx (Statistical Package for the Social Sciences) was used on the PRIME Mainframe system at the University of Surrey to perform the statistical calculations.

6.7.2   Data preparation for OPTSUR

In addition to the statistical procedures described above, the study sought to calculate productivity indices of the sample based on Farrell's EPF concept. The survey variables had to be prepared in order to be run on the Fortran program OPTSUR in order to produce the indices. This followed a similar pattern as described in 6.4, the initial Financial Analysis attempt. Value added was computed by the summation of depreciation, staff costs and pre-tax profits. These component elements were obtained by taking the midpoints of the financial ranges indicated on the questionnaire. Value

added was converted to constant prices (guided by the month/year data collected from the questionnaire) using the Retail Price Index (RPI). Input factors were then converted to reflect unit output or unit value added.

6.8   Inferences and Follow-up Studies

Inferences were then drawn from the statistical analysis stage. The research hypotheses were tested and an attempt was made to compute the productivity indices of the 494 agents using OPTSUR. The main findings are presented in the following chapter. An opportunity was made available to the researcher to further investigate certain points of interest that had cropped up in the Main survey analysis work. These took the form of involved Time and Motion Studies, funded and sponsored by Air Research Ltd., a Market Research Consultancy in London focussing on issues pertaining to the travel industry and technology. These are described below.

6.8.1   Points for Further Investigation

The Statistical analyses revealed vast and varied information about travel agents, and the study's hypotheses. Some questions that were uncovered that were of particular interest are outlined below :

1)   Did the the travel agent have a high influencing capability over customers ?

2)   To what extent was this influenced by the technology that was used by them ?

3)   Was there a variance in the influencing of different kinds of services (business travel vs vacation) ?

4) Was there a variance between the influencing capability of multiple and independent travel agents ?

At this point meetings were arranged with a few consultants to attempt 'feedback analysis'. One of the Market Research Consultancies contacted was Air Research Ltd., and they were wanting to embark on a large time and motion study in a sample of business travel agents, studying their use of technology and and the four points above were part of their objectives. I was asked to join the team working on the study, and was responsible for piloting an initial two-day observation study, to help shape the survey format. I was given the task of recruiting 10 other students from the University of Surrey (preferably with travel industry backgrounds), and suggested and arranged for a one-day Travicom familiarisation course, so as to observe monitored agents more accurately. Described below briefly is the methodology and sample used in the collaborative Time and Motion Studies.

6.8.2 Time and Motion Studies

The study set out to examine the interaction between business travel customers and travel agents, the characteristics of travel booked, and the way in which a transaction is handled by the travel agent. Several reasons were given for undertaking the survey :

1) There was a lack of data on the customer/agent relationship, the effect of agency features on travel purchase and the execution of transactions.

2) To find out whether customer decisions are affected by the travel agent, and to what extent. (When travel industry principals had been queried about this before, they felt only 10-20% of airline bookings could be influenced).

3) An earlier Air Research Survey (1987) had revealed that agents were committed to selling airlines whose CRSs they were familiar with. This was to be investigated.

4) Agents were uncomfortable and incompetent at handling some of the Travicom carrier's CRSs.

The sample consisted of 17 London business house travel agents, 8 of which were multiple outlets and the rest independent. The study interviewed 0.4% of sales staff in London, covering 109 agent days. There are no published sources detailing the number of travel agency sales staff, and the above estimate was worked out from the number of Travicom terminals in London. The earlier Air Research study had revealed a terminal to staff ratio of 1:2.26 in Greater London, and this was adjusted for non-Trvaicom agencts to produce a ratio of 1:1.24 VDUs to staff, giving a total of 2560 business travel sales staff in London.

We were placed in business travel agencies around London, and with the help of a parallel telephone extension lead 'listened-in' to conversations and watched the corresponding action the agent took per transaction. As per Market Research Society rules, agents were obliged to tell customers they were being heard by a researcher. They were given the opportunity to refuse to be listened to. Detailed structured notes were kept by the observers, which was later fed into a computerised menu-driven questionnaire devised by Pulse Train Technology.

A total of 1549 transactions were recorded, analysed and

tabulated. (A transaction was defined for the study as a generic term to refer to any dealing which an agent had with a customer concerning travel requests, whether they resulted in a booking or not.) Since the study was business oriented, in-depth statistical analyses were not attempted. Statistical inferences were based on key variations from mean scores. The study yielded useful material which supplemented the main survey findings, and are included in the next chapter if and when they are thought to be relevant.

CHAPTER 7   DESCRIPTIVE ANALYSIS

7.1 Introduction

7.2 Company Profile Analysis
     7.2.1   Sample Profile
     7.2.2   Company Profile

7.3 Market Profile Analysis
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     7.12.1   Calculation of Labour Productivity
     7.12.2   The Use of OPTSUR to calculate the EPF
     7.12.3   Discussion of OPTSUR results

7.1 Introduction

It was hypothesised in Chapter 4 that there is a significant variance in the company characteristics of different types of travel agents, based on literature reviewed in Chapter 2. This section tests these hypotheses based on the empirical evidence collected, and tests them by the corresponding Null Hypothesis, i.e. hypothesising 'no difference.' Where the analyses based on hypothesis testing are inconclusive average percentage figures and other measures of central tendency will be employed to compare the variables. The numbers preceeded with an H (eg: H1) refer to the hypotheses that were drawn up in the previous chapter, that are analysed and tested in this chapter.

Where relevant the Time and Motion Study results from the Follow-up stage of the study will be reproduced, and inferences drawn will be on survey results taken in conjunction with the Air Research results.

7.2 COMPANY PROFILE

In an attempt to compare the characteristics of multiples, independents and combined tour operators/travel agents, data was collected in Section A of the survey questionnaire (See Appendix C) detailing the Company's profile. These included data on turnover content, profitability of individual products, as well as age, location, ownership, geographical region etc. of the travel agency responding.

7.2.1 <u>Sample</u> <u>Profile</u> - <u>Frequencies</u> <u>Analysis</u>

Of the total of 494 usable survey responses, Table 7.1 gives
the break-up of the sample as multiple, independent travel
agents and combined travel agents and tour operators. (This
is the categorization used by ABTA in their statistics.)
Alongside the frequency distribution of the sample under
study here, is presented ABTA´s ratio of the corresponding
groups, to observe how closely the sample reflects the
population.

Table 7.1   Type of agency: Sample data and ABTA figures

Type of agency	Number Sample	ABTA*	Percentage % Sample	ABTA*
Multiple travel agent	91	400	18.4 %	25.8 %
Independent travel agent	295	890	59.7 %	57.6 %
Combined travel agent/ tour operator	108	255	21.9 %	16.6 %
	494	1545	100.0 %	100.0 %

---

* ABTA membership figures relate to April 1987 from which
the sample was chosen.

7.2.2 <u>Company</u> <u>profile</u>

H1 There is a variance in the profile characteristics of
independents, multiples, and combined tour operators
and travel agents.

Information on the general characteristics of the sample
were collected in Section A of the questionnaire, and each
feature will now be discussed in further detail, to explore
the empirical evidence on whether characteristics vary or
not.

a) <u>There is a significant difference between the focus of business of multiples, independents and combined agents.</u>

The majority of agents in the sample were leisure agents (63.8 %). of these, 84 % of multiples sold leisure travel as compared to 64.4 % of independents, and 44.4% of combined agents. Overall, only 10.7 % of the sample had business travel as a primary preoccupation. Of this group, one in four or 15.4 % were multiple agencies. Also, a greater percentage of multiples focussed primarily on business travel. Specialist agents numbered 25, or 5.1% and 14 % of the sample dealt with an equal proportion of business and leisure travel. An open response to allow for ´other´ business dealt with as the company´s focus yielded the following answers, from 6.5 % of the sample. The figure in brackets gives the percentage of responses in that category.

Tour operating	(1.2 %)
Equal Business, leisure, specialist travel	(1.4 %)
Conference and incentive travel	(1.0 %)
Business and specialist travel	(1.4 %)
Group travel	(1.4 %)

Table 7.2   Focus of Business of Sample

Type of Agency	Leis- 1	Busi- 2	Speci- alist 3	Equal 4	Tour op 5	Bus+Le is+Sp 6	Conf+ Inc 7	Bus+ Sp 8	Groups + Leis 9	MEAN $\overline{X}$
MULTIPLES n = 91	84.6%	15.4%	-	-	-	-	-	-	-	1.15
INDEPENDENTS n = 295	64.4%	9.2%	2.4%	21.4%	-	1.4%	0.7%	0.3%	0.3%	1.94
COMBINED AGT n = 108	44.4%	11.1%	16.7%	5.6%	5.6%	2.8%	2.8%	5.6%	5.6%	2.97
TOTAL n = 494	63.8%	10.7%	5.1%	14.0%	1.2%	1.4%	1.0%	1.4%	1.4%	2.02

STATISTICS

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Chi-square                 =   144.6073    DF  =  16
Cramers V                  =     0.38258
Contingency Coefficient    =     0.47586
Kendalls Tau B             =     0.26724
Pearsons R                 =     0.33278
```

b) <u>Number</u> <u>of</u> <u>Outlets</u>

Given that the majority of the sample consisted of independent agencies, it was not surprising that 58.1 % of the sample had single outlets. 142 or 28.7 % of the sample had 2 to 5 outlets, 8.3 % had 6 to 15 outlets, 2 % had 16 to 40 outlets, and 2.8 % had over 41 outlets making up the agency´s network. The sample figures give an average of 4 outlets per agent (taking midpoints and aggregating). The break up of outlets for the three groups of agents is tabulated in Table 7.3.

c) <u>Age</u> <u>of</u> <u>the</u> <u>Company</u>

Nearly two-thirds (64.8 %) of agents had been established between 1971-1989, and as few as 22.1 % had been started before 1960. The survey results appear in tabulated form in Table 7.4.

d) <u>Location</u>

A high proportion of the total (86.2%) had good location sites. Of these, nearly one in two agents (46.8%) in the sample had high street locations with 27.3% in other prime sites and 12.1% were in the Town Centre. Other location sites that were represented were out of town, University campus, in-store, off-street, railway or bus station and airport, and the frequency of each is in the Cross tabulated table below (Table 7.5).

A very high percentage of multiples (92.3%) were located in either the high street or other prime site, as compared to 70% of independents in these sites. 31% of combined operators were in locations other than the high street.

Table 7.3   <u>NUMBER OF OUTLETS IN SAMPLE</u>

Type of Agency	One outlet 1	2 to 5 2	6 to 15 3	16 to 40 4	41 to 100 5	Over 101 6	MEAN $\overline{X}$
MULTIPLES n = 91	7.7%	38.5%	30.8%	7.7%	7.7%	7.7%	2.9
INDEPENDENTS n = 295	69.5%	26.1%	3.4%	1.0%	-	-	1.4
COMBINED AGT n = 108	69.4%	27.8%	2.8%	-	-	-	1.3
TOTAL n = 494	58.1%	28.7%	8.3%	2.0%	1.4%	1.4%	1.6

<u>STATISTICS</u>

```
Chi-square                  = 200.52276    DF  = 10
Cramers V                   =   0.45051
Contingency Coefficient     =   0.53733
Kendalls Tau B              =  -0.40084
Pearsons R                  =  -0.48597
```

Table 7.4   AGE OF SAMPLED COMPANIES

Type of Agency	Pre-1950 1	1951-1960 2	1961-1970 3	1971-1980 4	1981 & after 5	No yr given 6	MEAN $\overline{X}$
MULTIPLE n = 91	38.5%	7.7%	7.7%	23.1%	23.1%	-	2.8
INDEPENDENT n = 295	10.5%	6.1%	11.5%	23.4%	45.4%	3.1%	3.9
COMBINED AGT n = 108	8.3%	8.3%	11.1%	38.9%	30.6%	2.8%	3.9
TOTAL n = 494	15.2%	6.9%	10.7%	26.7%	38.1%	2.4%	3.7

STATISTICS

Chi-square	= 63.27810	DF = 10
Cramers V	= 0.25307	
Contingency Coefficient	= 0.33697	
Kendalls Tau B	= 0.12758	
Pearsons R	= 0.19942	

Table 7.5   <u>LOCATION OF SITES OF SAMPLE</u>

Type of Agency	High Street 1	Other prime 2	Town centre 3	Out of town 4	Univ campus 5	In-store 6	off hi street 7	Rlwy/ bus st 8	Air port 9	MEAN $\bar{X}$
MULTIPLES n = 91	61.5%	30.8%	-	-	-	-	-	7.7%	-	1.8
INDEPENDENTS n = 295	44.1%	26.1%	15.3%	11.5%	0.7%	0.7%	0.7%	0.7%	0.3%	2.1
COMBINED AGT n = 108	41.7%	27.8%	13.9%	11.1%	5.6%	-	-	-	-	2.1
TOTAL n = 494	46.8%	27.3%	12.1%	9.3%	1.6%	0.4%	0.4%	1.8%	0.2%	2.0

<u>STATISTICS</u>

Chi-square	= 68.03604	DF = 16
Cramers V	= 0.26242	
Contingency Coefficient	= 0.34793	
Kendalls Tau B	= 0.12373	
Pearsons R	= 0.05649	

e) Ownership

Over half the travel agents interviewed were privately owned
(private limited companies) with the second highest group
being partnerships (16.6%). 16% of independents were sole
propreitors, while a smaller number of multiples (7%) and
combined operators (8%) had sole ownership. Only 3.4% of the
sample were co-operatively owned with no independents in the
group. The results are cross-tabulated in Table 7.6.

f) Company performance measure

A large number (67.4%) saw company performance measured as
nett profits. Sales turnover was the second most popular
measure, accounting for 22.5% of the total sample.
Independents (24.7%) and combined operators (22.2%) favoured
the measure more than multiples did (15.4%). The use of
return on capital was ver minimal (4.7%). One independent
put down ´customer satisfaction´ (0.2%) as the company
performance measure, but it is not clear as to how this was
calculated. The split of company performance measure by
travel agency group is given in Table 7.7.

Table 7.6 <u>Ownership</u>

Type of Agency	Pvt Ltd Co 1	Subsidiary 2	Partnership 3	Sole prop 4	Co-op erativ 5	Subs of PLC 6	Unltd pvt co 7	Other 8	MEAN $\bar{X}$
MULTIPLES n = 91	46.2%	15.4%	7.7%	7.7%	15.4%	-	-	7.7	2.6
INDEPENDENTS n = 295	55.9%	8.1%	19.3%	15.9%	-	0.3%	0.3%	-	1.9
COMBINED AGT n = 108	66.7%	5.6%	16.7%	8.3%	2.8%	-	-	-	1.8
TOTAL n = 494	56.5%	8.9%	16.6%	12.8%	3.4%	0.2%	0.2%	1.4%	1.9

STATISTICS

Chi-square	= 101.40971	DF = 14
Cramers V	= 0.32038	
Contingency Coefficient	= 0.41270	
Kendalls Tau B	= -0.13835	
Pearsons R	= -0.19885	

Table 7.7 <u>Company Performance Measure</u>

Type of Agency	Nett profit 1	Turn-over 2	ROCE 3	Value Added 4	Client satisf 5	Other 6	Gross margin 7	MEAN $\overline{X}$
MULTIPLES n = 91	69.2%	15.4%	7.7%	7.7%	-	-	-	1.5
INDEPENDENTS n = 295	66.1%	24.7%	4.4%	3.1%	0.3%	1.0%	0.3%	1.5
COMBINED AGT n = 108	69.4%	22.2%	2.8%	5.6%	-	-	-	1.4
TOTAL n = 494	67.4%	22.5%	4.7%	4.5%	0.2%	0.6%	0.2%	1.5

<u>STATISTICS</u>

Chi-square	=	12.67574 DF = 12
Cramers V	=	
Contingency Coefficient	=	
Kendalls Tau B	=	-0.01595
Pearsons R	=	-0.03370

g) Regional Distribution

An even spread of agents was found across the sample. Representatives from every British Tourist Authority region were in the sample. Table 7.8 gives the breakdown of the sample by region and compares it to the ABTA population split.

Table 7.8   Regional Distribution of Sample and Population

Region	Sample Number	%	Population Number	%
Scotland	28	5.7	523	8.2
North	11	2.2	269	4.2
North West	69	13.9	751	11.8
North East	19	3.8	516	8.1
East Midlands	42	8.5	358	5.6
West Midlands	43	8.7	544	8.5
South	19	3.8	601	9.4
South West	39	7.9	324	5.1
South East	76	15.4	1165	18.3
London	92	18.6	746	11.7
Wales	32	6.4	299	4.7
Northern Ireland	13	62.6	211	3.3
Isle of Mann	6	1.2	17	0.3
Channel Islands	4	0.8	28	0.4
Total	494	100.0	6366	100.0

Source : Population figures from ABTA membership list 1987, from which the sample was chosen.

As far as variance between multiples, independents and combined agencies was concerned, independents were the only group which had representatives from every region. Sampled multiples had the most concentration in the North West (23.1%) with an even 15% from West Midlands, South West and London. The independents sampled had their highest

concentration in London (15.3%) and South East (17.3%) while nearly 1 in three combined agents were situated in London. The sample is not however skewed and has an even representation as Table 7.8 reveals.

h) Competitors

Only 2.8% of agents queried could not estimate the number of competitors they faced in their region (i.e. answered "don´t know"). Only one in thirteen agents of the total felt they had no competition at all. Of this group, 7.7% of multiples, 8.5% of independents and 5.6% of combined agents felt there were no competitors to their business in their vicinity. These are exceptions to the rule as survey figures point to the travel agency business being one that is competitive.

33.4% or one in three travel agents interviewed estimated that they had thirteen or more businesses in competition with them. One in five agents had 2 to 4 competitors, while 27.1% of agents had 5 to 12 competitors. Only 8.9% of agents interviewed estimated that they had only one competitor to deal with.

To find out if there was a significant variance in the competition faced by multiples, independents and combined operators the relevant hypothesis testing statistics were calculated for the 3*8 contingency tables, and these are given in Table 7.9.

The significance level of 0.0391 makes it improbable to disregard the hypothesis that the observed variables are independent. The strength of the association as measured by Kendalls tau b (0.05) and Pearsons R (0.06) were relatively low.

Table 7.9 <u>Number of Competitors</u>

Type of Agency	Many 1	One 2	2 to 4 3	5 to 7 4	8 to 12 5	13+ 6	None 7	Dont know 8	MEAN $\overline{X}$
MULTIPLES n = 91	15.4%	7.7%	15.4%	15.4%	15.4%	23.1%	7.7%	-	4.1
INDEPENDENTS n = 295	7.8%	10.5%	23.7%	16.3%	10.5%	20.0%	8.5%	2.7%	4.2
COMBINED AGT n = 108	13.9%	5.6%	13.9%	13.9%	11.1%	30.6%	5.6%	5.6%	4.4
TOTAL n = 494	10.5%	8.9%	20.0%	15.6%	11.5%	22.6%	7.7%	2.8%	4.2

<u>STATISTICS</u>

Chi-square   = 24.56850   DF = 15
Cramers V   =
Contingency Coefficient   =
Kendalls Tau B   =   0.05007
Pearsons R   =   0.06238

7.3   Market profile

H2   Travel agents have higher sales over the counter than over the telephone.

Of the total sample a lower percentage had sales over the telephone, as compared with counter sales. 45.5% indicated that telephone sales were low (between 0 to 20 %) and only 21.3% of agents indicated that telephone sales accounted for between 61 to 100 % of all sales. As compared to this, 55.1% had 61 to 100% of sales over the counter, with 26.7% in the medium range (21 to 60%) and 18.2% with less than 20% of their sales coming over the counter.

The claim that clientele prefer to deal with a person face-to-face as opposed to at the end of a telephone line is proven true in the case of the sample as a whole. Table 7.10 gives the overall market profile of the sample, covering data that relates to Hypotheses 2 to 4. The top two cross tabulations gives the type of agent with the break-up of the sales approach (i.e. telephone or counter) clients used.

Multiples asserted more strongly that solely phone sales were in the low or 0 to 20% range (70% as opposed to 45% of independents, and 28% of combined operators). The most sales by telephone was recorded by the combined agents group with 39% of them in the 61 to 100% range. This might be explained by the fact that these agents have a tour operation element in their operations. Clients may have brochures ordered/ mailed/ picked up enabling decision making processes to take place beforehand, and might come over the telephone for a firm reservation after selection has been made. Whereas with independents and multiples selling more primary products, clients visits may be quickly ´filled´ and the gap between

obtaining information and making the decision may not be as large.

Time and Motion Study findings

Air Research findings had 97% of transactions coming in via the telephone. This was to be expected as the sample observed were solely business travel agents, who did not service walk-in customers. The study found lower rates of calls per day than originally expected. Calls were predominantly made by the customer for information and cost advice.

The study recommended the use of ´fax´ requests. This would probably be most viable in the case of simple reservations which do not need much choosing or pre-booking (eg: fares, availability, schedules) information. Staff would be able to then prioritise work based on urgency/client importance/ convenience or any other criteria. Also client requests would be in black and white, and consequently cut down errors that might crop up because of mishearing or misrepresentation from the telephone conversation. a dedicated staff member or section could then deal with the faxed requests with uninterrupted processing.

The study found that in general travel arrangements need negotiating as choices may be available. On average one call was made for information, and a second call followed up with the actual booking. There was a moderately low conversion rate of these information calls into bookings. Four main factors were identified as causes of this :-

1)   Peak calls were in narrow time bands.
2)   Calls were interrupted because of CRS downtime, or lack of availability of information.
3)   Parallel calls.
4)   Intrusion of low / high cost products into the selling effort.

Since there was the dominant use of telephone handling Air Research recommended that staff training should focus on refining telephone manner, telephone sales methods and use queuing for efficient call handling.

H3   Travel Agents have low repeat business.

The mean value for the proportion of repeat business for the total sample was 4.729, indicating a very high proportion of repeat business. The new business average figure was 2.7 (between 1 and 40%) with a relatively low standard deviation of 0.88. The figures from the survey therefore prove to be contrary to the claims of the hypothesis.

53.8% of multiples had very low (1 to 20%) new business, and 100% of all multiples did not record more than 40% of new clients. Independents had a more even spread, with 43% having low (0 to 20%), nearly 50% having medium (21 to 40%) and 7% recording 81 to 100% of non-repeat clientele.

This might be an important point to indicate corporate image and consequent loyalty that multiples are able to command. Also the fact that several more multiples sold business travel must be considered. The existence of large corporate clients might account for the high proportion (85% in the 61 to 100% range, as opposed to 68% of independents and 61% of combined agents) multiples had of repeat business clientele. The survey results are presented in rows 3 and 4 of Table 7.10.

Table 7.10 **MARKET PROFILE OF THE SAMPLE**

Multiples N=91

	0% (1)	1-20% (2)	21-40% (3)	41-60% (4)	61-80% (5)	81-100% (6)	$\bar{X}$
Sales by phone	15.4	53.8	7.7	7.7	7.7	7.7	2.62
Sales ov/counter	7.7	15.4	-	7.7	23.1	46.2	4.62
Repeat business	-	-	-	15.4	61.5	23.1	5.08
New business	-	53.8	46.2	-	-	-	2.46
Local clientele	7.7	-	-	-	7.7	84.6	5.54
Non-local client	-	92.3	-	-	-	7.7	2.31

Independents N=295

	0% (1)	1-20% (2)	21-40% (3)	41-60% (4)	61-80% (5)	81-100% (6)	$\bar{X}$
Sales by phone	1.4	43.4	24.7	13.9	8.1	8.5	2.69
Sales ov/counter	3.4	7.8	10.8	17.3	28.8	31.9	4.54
Repeat business	2.0	3.7	6.4	19.0	49.2	19.7	4.68
New business	2.0	41.0	40.7	9.8	5.8	0.7	2.78
Local clientele	1.4	3.4	6.4	12.9	30.8	45.1	5.04
Non-local client	2.7	62.7	16.3	9.8	5.4	3.1	3.23

Combined Agents N=108

	0% (1)	1-20% (2)	21-40% (3)	41-60% (4)	61-80% (5)	81-100% (6)	$\bar{X}$
Sales by phone	-	27.8	8.3	25.0	11.1	27.8	4.03
Sales ov/counter	11.1	22.2	25.0	13.9	11.1	16.7	3.42
Repeat business	-	5.6	5.6	27.8	50.0	11.1	4.55
New business	-	30.6	44.4	13.9	11.1	-	3.06
Local clientele	5.6	30.6	11.1	13.9	13.9	25.0	3.75
Non-local client	-	30.6	13.9	8.3	13.9	33.3	4.06

Total N=494

	0% (1)	1-20% (2)	21-40% (3)	41-60% (4)	61-80% (5)	81-100% (6)	$\bar{X}$
Sales by phone	3.6	41.9	18.0	15.2	8.7	12.6	3.21
Sales ov/counter	5.9	12.3	11.9	14.8	23.9	31.2	4.31
Repeat business	1.2	3.4	5.1	20.2	51.6	18.4	4.73
New business	1.2	41.1	42.5	8.9	5.9	0.4	2.78
Local clientele	3.4	8.7	6.3	10.7	22.9	48.0	4.84
Non-local client	1.6	61.1	12.8	7.7	6.3	10.5	2.87

H4   Travel agents serve predominantly local markets.

Evidence from the survey reascertained the claim of the hypothesis. The mean value for the number of local clientele was very close to the 61 to 80% range (x = 4.8), with the median of 5 and mode of 6 echoing this trend. In fact 70% of the total sample estimated that they had 61 to 100% of their customers made up of the local community. Opinions on this were more or less unanimous across the three groups as the results in rows 5 and 6 of Table 7.10 reveal.

7.4   Product Profile

H5   There is a variance in the product mix sold by different agents.

As evident from the descriptive results in Table 7.11 there is only marginal variation in the products mix between the three groups. Multiples sold a higher or equal percentage of each product, while the combined agents had organising ITs (x=3.92) as a high proportion of its turnover. Retailing ITs accounted for the highest individual percentage of turnover in all three groups. The low contributors to turnover were hotels, car hire, rail reservation, organising ITs (for multiples and independents) and shipping and cruise services.

Table 7.11 Product Mix of the Sample

	Multiples N=91							Independents N=295							Combined Agents N=108							Total N=494						
	0%	1-20%	21-40%	41-60%	61-80%	81-100%	X̄	0%	1-20%	21-40%	41-60%	61-80%	81-100%	X̄	0%	1-20%	21-40%	41-60%	61-80%	81-100%	X̄	0%	1-20%	21-40%	41-60%	61-80%	81-100%	X̄
	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
Scheduled Air	15.4	30.8	30.8	7.7	7.7	7.7	2.85	2.4	41.4	29.5	15.6	5.8	5.4	2.97	2.8	52.8	13.9	16.7	13.9	-	2.86	4.9	41.9	26.3	14.4	7.9	4.7	2.9
Chartered Air	15.4	53.8	23.1	7.7	-	-	2.23	8.8	57.6	20.7	7.1	3.4	2.4	2.46	33.3	44.4	8.3	5.6	8.3	-	2.09	15.4	54.0	18.4	6.9	3.8	1.4	2.3
Rail Services	5.1	30.8	46.2	23.1	-	-	2.98	48.5	43.7	4.7	2.0	1.0	-	1.63	66.7	33.3	-	-	-	-	1.33	49.2	41.9	7.1	1.2	0.6	-	1.6
Retailing ITs	-	7.7	15.4	30.8	23.1	23.1	4.38	4.4	12.9	19.3	25.4	23.4	14.6	3.90	16.7	27.8	16.7	19.4	5.6	13.9	3.11	6.3	15.2	18.0	25.1	19.4	16.0	3.8
Organising ITs	61.5	23.1	15.4	-	-	-	1.54	60.7	30.8	5.4	1.0	1.0	1.0	1.44	8.3	27.8	30.6	16.7	13.9	2.8	3.08	49.4	28.7	12.8	4.3	3.6	1.2	1.8
Car/coach Hire	15.4	76.9	-	-	7.7	-	2.08	27.5	60.0	7.5	2.4	1.7	1.0	1.91	58.3	33.3	5.6	-	-	2.8	1.58	32.0	57.3	5.7	1.4	2.4	1.2	1.8
Shipping/cruises	7.7	69.2	7.7	-	-	-	2.15	24.1	67.5	5.8	1.0	0.7	1.0	1.90	52.8	44.4	2.8	-	-	-	1.48	27.3	62.8	8.3	0.6	0.4	0.6	1.8
Hotel bookings	15.4	69.2	15.4	-	-	-	2.00	15.6	78.0	3.4	1.7	0.3	1.0	1.92	25.0	61.1	11.1	2.8	-	-	1.92	17.6	72.7	7.3	1.6	0.2	0.6	1.9
Insurance	-	61.5	30.8	-	-	7.7	2.62	4.7	68.8	12.9	5.1	3.4	5.1	2.49	16.7	55.6	13.9	8.3	2.8	2.8	2.33	6.5	64.6	16.4	4.9	2.6	5.1	2.4

The low amount of ancillary services sold by the travel agent as revealed by the survey is presented in tabular form below.

Table 7.12   Travel Agency services with Low Sales Share

| Product | Proportion of product in turnover | | |
	Nil 0%	1-20%	0-20% (combined)
Organising ITs	49.4	28.7	78.1
Car/Coach hire	32.0	57.3	89.3
Shipping/Cruises	27.3	62.8	90.1
Hotel	17.6	72.7	90.3
Insurance	6.5	64.6	71.1

Very few travel agents sold hotels /car hire/ coach hire/ shipping / cruises/insurance or organised ITs. Often upto 90% of agents in the sample indicated a 0 to 20% sales share from these services as shown in Table 7.12 above.

Time and Motion Studies

This was also substantiated in the follow-up Time and Motion Studies. It was found that travel agents do NOT actively sell products other than the standard. Of the transactions recorded only 3% contained car bookings. This was considered too low to reflect natural consumer demand. In previous research studies travel managers had deemed car rentals as "undesirable" because of three reasons :

- high cost (telex, telephone calls etc)
- time required
- billing problems

The first disadvantage was substantiated by Air Research findings. The average number of outbound calls were high for hotel and car bookings as shown below.

```
Outbound calls made by percentage of air sectors   =  8%
                       by percentage of hotel bookings = 47%
                       by percentage of car rentals   = 83%
```

The second disadvantage too was backed up by Air Research data. While an average transaction took 40.6 minutes to complete, a transaction which included a car rental took 112.7 minutes, almost three times as much.

H6   <u>Multiples</u> <u>make</u> <u>higher</u> <u>profits</u> <u>per</u> <u>individual</u> <u>services.</u>

Multiples showed marginally higher average profits than independents in scheduled air, rail , car hire, shipping, hotels and insurance as Table 7.13 indicates.

Insurance was regarded as the most profitable product on average in all three categories with 92.3% of multiples recording high profits, 73.6% of independents and 61.1% of combined agents. The combined operators made the highest profits from organising inclusive tours with a mean score of 1.67.

Table 7.13   PRODUCT PROFITABILITY

	Multiples N=91					Independents N=295					Combined Agents N=108					Total N=494				
	HIGH 1	MED 2	LOW 3	NIL 4	X̄	HIGH 1	MED 2	LOW 3	NIL 4	X̄	HIGH 1	MED 2	LOW 3	NIL 4	X̄	HIGH 1	MED 2	LOW 3	NIL 4	X̄
Scheduled Air	-	46.2	38.5	15.4	2.69	10.8	47.5	39.3	2.4	2.33	8.3	41.7	47.2	2.8	2.44	8.3	46.0	40.9	4.9	2.42
Charter Air	-	69.2	15.4	15.4	2.55	11.5	61.7	18.3	8.5	2.24	-	44.4	25.0	30.6	2.86	6.9	59.3	19.2	14.6	2.41
Rail Services	-	15.4	53.8	30.8	3.15	1.0	7.8	42.7	48.5	3.39	-	2.8	33.3	63.9	3.61	0.6	8.1	42.7	48.6	3.39
Retailing ITs	15.4	69.2	15.4	-	2.00	23.4	60.0	12.2	4.4	1.98	8.3	55.6	19.4	16.7	2.44	18.6	60.7	14.4	6.3	2.08
Organising IT	15.4	7.7	15.4	61.5	3.23	15.3	19.3	5.4	60.0	3.10	63.9	16.7	8.3	11.1	1.67	25.9	16.6	7.9	49.6	2.81
Car/bus hire	-	53.8	30.8	15.4	2.62	5.4	34.9	32.5	27.1	2.81	8.3	22.2	11.1	58.3	1.17	5.1	35.6	27.5	31.8	2.86
Ship/Cruises	-	76.9	15.4	7.7	2.46	3.4	34.6	35.3	23.7	2.79	-	22.2	25.0	52.8	3.31	2.0	41.5	29.4	27.1	2.82
Hotel Resv	-	38.5	46.2	15.4	2.77	2.4	25.4	55.9	16.3	2.86	2.8	22.2	52.8	22.2	2.94	2.0	27.1	53.4	17.4	2.86
Insurance	92.3	7.7	-	-	1.16	73.6	16.1	4.7	5.1	1.41	61.1	19.4	5.6	13.9	1.72	74.3	15.6	4.0	6.1	1.42

7.5 Agents capacity to influence

H7 Certain products are ´high advice´ products.

Across the sample insurance was the product which was the most "high advice" with 80.8% of agents interviewed. Hotel reservation and Europe /domestic air were next, with about three fourths (76.3% and 74.9%) of agents indicating that customers asked advice often. Surprisingly customers were thought to ask advice often on International air services only 34.6% of the time and shipping only 37.4% of the time. Long haul ITs were queried often for advice only 27.5% of the time, while short haul ones were asked advice on often 43.9% of the time. None of the multiples indicated "advice never asked" for any product sold.

A few independents indicated that advice was never asked (between 3.7 to 5.1%) for International air, Short and long haul ITs and cruises. Combined operators had a very high proportion of products falling into the "no advice asked" range. With International Air the highest (16.7%), followed by Europe/Domestic air (8.3%) and insurance (5.6%). The results are presented in Table 7.14.

Table 7.14   FREQUENCY OF ADVICE ASKED

	Multiples N=91					Independents N=295					Combined Agents N=108					TOTAL N=494				
	Oftn 1	Smtm 2	Nevr 3	n/a 4	X̄	Oftn 1	Smtm 2	Nevr 3	n/a 4	X̄	Oftn 1	Smtm 2	Nevr 3	n/a 4	X̄	Oftn 1	Smtm 2	Nevr 3	n/a 4	X̄
Euro/UK Air	69.2	23.1	-	7.7	1.15	55.9	40.7	1.4	2.0	1.23	38.9	47.2	8.3	5.6	1.61	54.7	38.9	2.6	-	1.30
Intnatl Air	61.5	30.8	-	7.7	2.10	67.1	31.2	0.7	1.0	1.64	69.4	25.0	2.8	2.8	1.98	66.6	29.8	1.0	2.6	1.79
Hotel Resv	38.5	53.8	-	7.7	1.23	52.2	42.7	2.7	2.4	1.21	44.4	38.9	11.1	5.6	1.45	48.0	43.9	4.0	4.0	1.28
Euro/UK ITs	23.1	76.9	-	-	1.69	29.2	67.1	3.1	0.7	1.59	28.3	58.3	5.6	5.6	1.73	28.3	67.0	3.0	1.6	1.64
Longhaul ITs	7.7	92.3	-	-	1.77	33.9	56.3	7.5	2.4	1.81	22.2	58.3	11.1	8.3	1.64	26.5	63.4	6.9	3.2	1.77
Shipping	76.9	23.1	-	-	1.23	63.4	32.5	3.1	1.0	1.71	55.6	41.7	2.8	-	1.67	64.2	32.8	2.4	0.6	1.69
Insurance	69.2	30.8	-	-	1.00	66.1	30.2	2.7	1.0	1.22	61.1	33.3	2.8	2.8	1.50	65.6	31.0	2.2	1.2	1.24

In the time and motion studies observers were asked to qualify as to whether the travel agent was used principally for booking or consultation. The figures are tabulated below. Where they do not total 100% there was an overlap in the observers classification.

Table 7.15   Travel Agency role

Transaction principal	Primary use of the agent	
	Booking %	Consultant %
Airline	38	64
Hotel	47	57
Car rental firm	65	43
Total	37	65

Air Research findings revealed that of the total transactions recorded, 37% used the travel agents as a "booking service", while 65% used the agent as a consultancy.

H8 Travel agents can often influence customers' product choice.

Over 90% of agents felt they could influence customer choice often or atleast sometimes for all the products queried. The most influencable products were International air (66.6%), Insurance (65.6%) and Cruises/shipping (64.2%). Again multiples were more assertive of their influencing capability, and did not indicate that they could never influence customers on any of the products. Independents and combined operators categories had a few agents who felt they were never able to influence customer choice. The responses to the extent of agency influence are tabulated in Table 7.16.

Table 7.16   AGENT'S CAPACITY TO INFLUENCE

	Multiples N=91					Independents N=295					Combined Agents N=108					TOTAL N=494				
	Oftn 1	Smtm 2	Nevr 3	n/a 4	$\bar{X}$	Oftn 1	Smtm 2	Nevr 3	n/a 4	$\bar{X}$	Oftn 1	Smtm 2	Nevr 3	n/a 4	$\bar{X}$	Oftn 1	Smtm 2	Nevr 3	n/a 4	$\bar{X}$
Euro/UK Air	69.2	23.1	-	7.7	1.46	55.9	40.7	1.4	2.0	1.49	38.9	47.2	8.3	5.6	1.81	54.7	38.9	2.6	-	1.56
Intnatl Air	61.5	30.8	-	7.7	1.54	67.1	31.2	0.7	1.0	1.36	69.4	25.0	2.8	2.8	1.39	66.6	29.8	1.0	2.6	1.40
Hotel Resv	38.5	53.8	-	7.7	1.77	52.2	42.7	2.7	2.4	1.55	44.4	38.9	11.1	5.6	1.78	48.0	43.9	4.0	4.0	1.64
Euro/UK ITs	23.1	76.9	-	-	1.77	29.2	67.1	3.1	0.7	1.75	28.3	58.3	5.6	5.6	1.86	28.3	67.0	3.0	1.6	1.78
Longhaul ITs	7.7	92.3	-	-	1.92	33.9	56.3	7.5	2.4	1.78	22.2	58.3	11.1	8.3	2.10	26.5	63.4	6.9	3.2	1.77
Shipping	76.9	23.1	-	-	1.23	63.4	32.5	3.1	1.0	1.42	55.6	41.7	2.8	-	1.47	64.2	32.8	2.4	0.6	1.39
Insurance	69.2	30.8	-	-	1.31	66.1	30.2	2.7	1.0	1.39	61.1	33.3	2.8	2.8	1.47	65.6	31.0	2.2	1.2	1.39

This high influencing capacity that travel agents possess was actually seen in practice in the Time and Motion Studies undertaken in the follow-up stage. However the study indicated that while the potential was there for agents to influence choice very few actually did. Of the 804 airline transactions recorded there was an effort made by agents to sell a supplementary service only for 3% of these. There was an absence of any hard sell techniques. Air Research consultants from discussions concluded that agents saw any kind of overt selling as undermining the customer/agent relationship. The conversion factor (i.e. calls into booked transactions) was low across the whole sample, and was only marginally more (1%) for agents who had received sales training.

7.6 Role of the Principal

H9 Principals substantially support travel agents.

Airlines were the most supportive of agents in the sample as a whole, followed by tour operators and shipping companies. The mean scores as well as the split between the three agent groups are presented in Table 7.17. As far as support from airlines was concerned multiples had a lower mean score than the average (1.46 as opposed to 1.51) indicating that their support was stronger than the other agent categories. 36.3% of independents asserted that they received good support from tour operators as compared with 15.4% of multiples and 30.6% of combined agents. The principals who were thought to provide the worst support were hotels and railways. As many as one in four agents felt that hotels provided poor support and 43.7% of agents felt railway support was poor.

Table 7.17 PRINCIPALS : SUPPORT LEVEL

	Multiples N=91					Independents N=295					Combined Agents N=108					Total N=494				
	GOOD 1	MED 2	POOR 3	N/A 4	X̄	GOOD 1	MED 2	POOR 3	N/A 4	X̄	GOOD 1	MED 2	POOR 3	N/A 4	X̄	GOOD 1	MED 2	POOR 3	N/A 4	X̄
Airlines	53.8	46.2	-	-	1.46	56.9	35.6	7.1	0.3	1.51	52.8	41.7	2.8	2.8	1.56	55.5	38.9	4.9	0.8	1.51
Tour Op'tors	15.4	76.9	7.7	-	1.92	36.3	54.2	8.5	1.0	1.74	30.6	58.3	8.3	2.8	1.83	31.2	59.3	8.3	1.2	1.80
Hotels	30.8	38.5	30.8	-	2.0	21.4	51.9	26.1	0.7	2.06	22.2	52.8	25.0	-	2.03	22.2	52.8	25.0	-	2.04
Car Hire Cos.	7.7	76.9	15.4	-	2.08	27.5	53.2	17.6	1.7	1.94	38.9	38.9	19.4	2.8	1.86	26.3	54.5	17.6	1.6	1.95
Coach Cos.	23.1	69.2	-	7.7	1.92	20.7	44.1	23.1	12.2	2.27	13.9	36.1	13.9	36.1	2.72	19.6	47.0	16.8	16.6	2.30
Railways	15.4	23.1	38.5	23.1	2.69	4.7	24.7	44.1	26.1	2.91	5.6	19.4	47.2	27.8	2.97	6.9	23.3	43.7	25.9	2.88
Shipping Cos.	30.8	61.5	7.7	-	1.77	28.5	50.8	14.2	6.4	1.98	22.2	47.2	13.9	16.7	2.25	27.5	52.0	13.0	7.5	2.00

H10 <u>The general staff profile of agency staff is one of</u>
     <u>average education and experience levels, with a low</u>
     <u>degree of training and specialisation.</u>

The average number of staff per agency was fairly high at
10.43 staff. There were a higher number of male managerial
staff than there were male sales staff, and the outcome was
the opposite for female staff. The sample mean for the
number of male managers was 2.7 as compared with female
managers who averaged 1.8 across the whole sample. The
results of the split between male and female managerial and
travel sales staff follow in the tables below.

Table 7.18   BREAK UP OF MANAGERIAL STAFF

<u>Statistics</u>	<u>Male managerial</u>	<u>Female managerial</u>
Mean	2.692	1.759
Median	2.000	1.000
Mode	1.000	1.000
Std deviation	1.495	0.761
Maximum	5.000	5.000
Minimum	1.000	1.000

The results for travel sales staff however favoured women
more strongly. In the average agency there were about half
the number of male travel staff as there were female. The
most commonly occuring value or the Mode was 2 for male
travel staff as compared to 6 female travel sales staff. The
maximum number of female sales staff in any one agency
observed was 10 as compared to 6 males.

Table 7.19   BREAK UP OF TRAVEL SALES STAFF

Statistics	Male travel sales	Female travel sales
Mean	2.451	4.049
Median	2.000	6.000
Mode	2.000	6.000
Std deviation	1.205	2.237
Maximum	6.000	10.000
Minimum	1.000	1.000

The ratio of supervision was very low in the sample observed, with one manager for every three staff. The Air Research sample had a higher ratio as given below :-

Table 7.20   Ratio of Supervision

	Sample Survey		Air Research	
	Number	%	No.	%
Managerial	1449	28.1	10	16.1
Travel Sales	3701	71.9	52	83.9
Total staff	5150	100.0	62	100.0
RATIO	3 : 1		5 : 1	

This might be explained by the difference in focus of the two samples. The Air Research sample observed travel agents whose main focus of business was company travel with minimum holiday sales, while the observed sample for this study was the opposite. Also the level of staff experience varied across the two samples and this could have caused the variance in the ratios of supervision. 75.8% of the Air Research staff sample had travel industry experience of 6

years or more, with 56.5% having this level of experience in the particular agency studied. With the sample survey staff only 26.3% had experience of over 6 years, while the managerial group had a very high percentage of 82.6% in the over 6 years experience group.

Table 7.21   STAFF EXPERIENCE LEVEL - SURVEY RESULTS

Level of experience	Managerial		Travel Sales	
	Number	%	Number	%
Under 2 years	19	1.3	1049	28.3
2 to 5 years	234	16.1	1681	45.4
6 to 15 years	659	45.5	790	21.3
Over 16 years	537	37.1	181	5.0
	1449	100.0	3701	100.0

The Air Research results investigated staff experience levels further than those within the travel agency that staff were employed in at the present time. The CRS experience of staff, as well as their length of experience in the travel industry as a whole was analysed. The results for the Air research sample are in the Table 7.22.

Table 7.22   STAFF EXPERIENCE LEVEL - AIR RESEARCH RESULTS

Number of Years	EXPERIENCE - SPECIFIC AREA					
	The industry		This agency		CRS usage	
	Number	%	Number	%	Number	%
Under 5 yrs	15	24.2	27	43.5	8	12.9
6-10 years	30	48.4	22	35.5	28	45.2
11-20 years	14	22.6	10	16.2	26	41.9
Over 20 years	3	4.8	3	4.8	-	-
	62	100.0	62	100.0	62	100.0

A very high percentage of the Air Research sample had a good experience level in the use of CRS, with 87.1% of agents queried having between 6 to 20 years experience. Only about 5% of the Air Research sample recorded over 20 years of experience in the travel industry or the individual agency, as compared with the Sample survey which had 37.1% of managerial staff with over 16 years experience. Staff education levels are analysed next, and the split between managerial and travel sales staff is presented.

Table 7.23   BREAK UP OF STAFF EDUCATION LEVEL

Level of education	Managerial		Travel Sales	
	Number	%	Number	%
O/A Level	910	62.8	2562	69.2
Degree/Diploma	182	12.6	221	5.9
Post graduate	45	3.1	11	0.3
Other	183	12.6	443	11.9
None of the above	129	8.9	464	12.7
	1449	100.0	3701	100.0

Almost one in ten managers and one in twelve staff had none of the cited educational qualifications or mentioned an alternate open response in the ´OTHER´ category. A high percentage of both groups (62.8% and 69.2%) had basic education upto O-level, A-level or GCSE. 12.6% of managers had either a degree or a diploma, while only half that number of staff (5.9%) claimed a similar qualification. Post-graduate study was not popular in the sample profile of both managers and sales staff with a total of only 1% having any post-graduate level of education.

While academic study was low among the sample (only 9% of the whole sample were graduates/HND holders or higher) several managers and sales staff held ´OTHER´ industry and business related qualifications. In total 12% or nearly one in eight of the sample had got a qualification ´OTHER´ than the ones mentioned above. This included 12.6% of managerial staff and 11.9% of travel sales staff. The main categories for the ´OTHER´ qualification levels are listed below :-

- COTAC I and COTAC II
- IATA ticketing courses
- TRAVICOM basic and refresher courses
- ABTA Introductory and advanced certificates in Travel Management (I.T.T)

Training levels both in-house and external are analysed later to verify whether academic qualifications are not stressed because raw personnel who can be trained and ´preened early´ are preferred.

Travel agency staff in general seem to be more biased towards having higher experience levels than educational levels. It could be surmised that sales staff begin work relatively early so that educational exposure of an academic

nature might be sacrificed or limited. An analysis of the average ages of travel agency staff follows, looking seperately at managerial and travel sales staff. The results are also compared and contrasted with the results from the Air Research Time and Motion Studies undertaken in the follow-up stage of this thesis.

Table 7.24   BREAK UP OF STAFF AGE PATTERN

Age	SAMPLE SURVEY RESULTS				AIR RESEARCH	
	Managerial		Travel Sales		Total staff	
	Number	%	Number	%	Number	%
16-25 years	209	14.4	2215	59.8	23	37.1
26-45 years	797	55.0	1232	33.3	36	58.1
46+ years	443	30.6	254	6.9	3	4.8
	1449	100.0	3701	100.0	62	100.0

Nearly two in three or 59.8% of the travel sales staff were in the age group of 16 to 25 years. It can be stated that 'entrants' to the travel field at the counter sales level are relatively young. A third of travel sales staff were between 26 and 45 years, while a very small percentage of 6.9% were over 46 years of age. Managers age pattern varied considerably with that of the travel sales staff. 'Young' managers (i.e. between 16 and 25 years) were relatively low adding up to 14.4% of the sample. The majority were in the 26 to 45 year range (55%) with a total of 85.6% of managers aged over 26 years. Nearly one in three or 30.6% were over 46 years of age or over.

Overall sample comparisons between the main sample survey and the follow-up sample showed that the latter had a more 'youthful' staff distribution. 13.6% of the sample survey staff were over 46 years as compared to 4.8% in the Air Research sample. However there were more 16 to 25 year olds in the main sample than in the Air Research one, a total of 47% as compared with 37%. The middle age-group of 26 to 45 contained the majority of the Air Research sample (58 %) as compared with 39.4% of the main sample.

This is probably again a reflection of the different focuses of business of the two sample under study. The Air Research travel agents focus on selling business travel. Being a more specialist type of product, with more 'demanding' customers, the average staff needs to be fairly experienced and well versed in systems and account handling. While it cannot be asserted generally that experience is synonymous with age, it is possibly the reason which explains the variance in age pattern in the two samples, in this particular case.

The extent that agents had divided into specialised groups was low in the main survey and higher in the case of the follow-up time and motion study. These are represented in tabulated form below.

Table 7.25   FREQUENCY OF SPECIALISATION

| | Main sample | | Air Research | |
	No.	%	No.	%
Had specialisation	51	10.3%	6	35.3%
No specialisation	443	89.7%	11	64.7%
Total	494	100.0	17	100.0

The Air Research study delved further into the types of specialisation the sample had and these are presented below. All but one agent (94.1%) had a specialist 'leisure' section which dealt with holday queries of business travel clients. More than half or 52.9% had a separate ticketing section, and there were also dedicated sections for Fare quotes, Hotel and Rail information.

Table 7.26   AIR RESEARCH RESULTS - AREA OF SPECIALISATION

Type of specialist department	Percentage of agents who had specialised in these areas
Leisure	94.1%
Fares (on-site)	23.5%
Fares (off-site)	11.8%
Ticketing	52.9%
Hotels	17.6%
Rail	5.9%

Only a fifth of the main sample held any type of formal staff training scheme but Computer training was held by 64.6% of interviewed agents. The Air Research study quizzed travel agents on how many staff had sales training and the response showed that nearly two-thirds did. The results for the three categories of training for the two samples are represented in tabular form below.

Table 7.27	FREQUENCY OF FORMAL STAFF TRAINING SCHEMES		

HELD TRAINING SCHEMES	SAMPLE SURVEY RESULTS		AIR RESEARCH
	General Training %	Computer Training %	Sales Training %
YES	21.3%	64.6%	64.5%
NO	78.7%	33.3%	58.1%
	------	------	------
	100.0%	100.0%	100.0%
	------	------	------

The training on the computer systems were held by various organisations, including 'in-house' training or training undertaken by the travel agency itself. The top 'trainer' for the Air Research sample was British Airways/Travicom, while in-house training and training from tour operators dominated for the main survey. This variance is easily explained. The Air Research sample consisted of business travel agents whose main preoccupation was the selling of airline tickets. As a consequence knowledge of the systems and training in them was a major priority, and this is activel supported by Travicom and airlines like British Airways. The main survey agents however focused mainly on leisure travel and the use of viewdata systems as opposed to expert CRSs. Training on these could quite easily be imparted in-house by senior or more experienced staff or externally by the tour operators concerned.

Table 7.28   ORGANISATIONS HOLDING THE COMPUTER TRAINING

TRAINED BY	SAMPLE SURVEY %	AIR RESEARCH %
Themselves	32.8%	35.5%
Airline/TRAVICOM	22.6%	56.5%
Tour operators	23.9%	\
Prestel	18.1%	\
ABTA	0.6%	> 8%
Computer companies	1.7%	/
Private consultants	0.3%	/
	------	------
	100.0%	100.0%
	------	------

Air Research further investigated the different areas in which travel agents hold in-house training. Imparting knowledge to staff on general handling of transactions and different apects of the travel industry was the top area of focus, followed by training in the use of computers, selling skills and other topics not specified.

Table 7.29   AIR RESEARCH RESULTS - IN-HOUSE TRAINING

Type of In-house training	Percentage of agents who trained staff in these areas
Industry information	82.4%
Automation	76.5%
Selling Skills	47.1%
Other (non specific)	1.2%

Another staff feature of interest was whether any staff incentive schemes were in operation. Two main schemes were identified in the initial survey stages and respondents were

asked to indicate whether they did or did not ofperate the particular schemes for their staff. In general only 27.5% of agents in the sample operated either of the two staff incentive scheme.

Table 7.30   STAFF INCENTIVE SCHEMES

	Sales commission		Profit share	
	No.	%	No.	%
Scheme supported	132	26.7%	140	28.3%
Not supported	362	73.3%	354	71.7%
Total	494	100.0%	494	100.0%

Air Research consultants stressed that the level of agency staffing and VDU provisions are a critical influence on travel agency performance. Three agent to VDU ratios were defined for the time and motion studies :-

1) Shared - when staff exceed VDUs
2) One to one
3) Surplus - when VDUs exceed staff (could be of a temporary nature because of staff being sick/ on holiday/ job vacancies)

In the Air Research sample independents had a better staff to VDU ratio than the multiples as revealed in the table below :

Table 7.31   AIR RESEARCH RESULTS - Agent to VDU ratio

	Number of Staff	Number of VDUs	Ratio
Multiples	200	179	1.12 : 1
Independents	127	118	1.08 : 1
Total	327	297	1.10 : 1

In the main survey only 9% or nearly one in ten had a 1 : 1 agent to VDU ratio. Combined agents were the highest in this group with 17.1% having a 1:1 ratio, independents had 8.9% in this group and multiples did not record any agencies having a 1:1 agent to VDU ratio. The majority of multiples (46.2%) had one VDU between 2 staff, while most of the other two groups had one VDU to 4 staff (47.9% of independents and 34.35 of combined agents had a 1:4 ratio). The results are tabulated in Table 7.32.

Table 7.32   Agent to VDU Ratio - Sample Results

RATIO	Multiples N=91	Independents N=295	Combined N=108	Total N=494
1 : 1	-	8.9 %	17.1 %	9 %
10 : 9	-	3.8 %	8.6 %	4.1 %
2 : 1	46.2 %	23.3 %	25.7 %	28.1 %
4 : 1	38.5 %	47.9 %	34.3 %	43.2 %
5 : 1 & higher	15.4 %	16.1 %	14.3 %	15.6 %
	=====	=====	=====	=====
TOTAL	100.0 %	100.0 %	100.0 %	100.0 %
	=====	=====	=====	=====

7.8 Systems profile

H11 The penetration of systems among travel agents is low.

The tour operators' systems emerged as the most used systems in the survey, with 61.1% of the whole sample recording high usage levels. One in two agents used Prestel a lot, while 18.8% used Prestel Gateway facilities. Very few of the agents interviewed had DPAS/ Sabre or ABC Electronic. 93.7% of the sample did not use Sabre/Apollo/Pars, while nearly 80% had no Accounting or DPAS system and 77.7% had no access to ABC Electronic.

It appeared from the survey that front office technology especially for holiday booking had penetrated travel agency most significantly across all three groups. The mean across the sample for the use of Prestel was 1.83, with multiples and independents using higher mean values (1.57 and 1.77) of Prestel applications than combined operators (2.22). The mean score for tour operators' viewdata systems was also relatively high (1.85), with 84.6% of multiples, 79% of independents and 58.4% of combined operators recording a high or medium usage level of the systems (Table 7.33).

The penetration of systems pertaining to front office airline booking including various CRS, and Back office Accounting was very low in the observed sample. The mean scores across the sample for the penetration of Prestel Gateway, Travicom, Sabre /Apollo /Pars, Accounting/DPAS and ABC Electronic ranged from 3.01 to 3.61.

Table 7.33   SYSTEMS USAGE LEVELS

	Multiples N=91					Independents N=295					Combined Agents N=108					TOTAL N=494				
	HIGH 1	MED 2	LOW 3	NIL 4	$\bar{X}$	HIGH 1	MED 2	LOW 3	NIL 4	$\bar{X}$	Oftn 1	Smtm 2	Nevr 3	n/a 4	$\bar{X}$	Oftn 1	Smtm 2	Nevr 3	n/a 4	$\bar{X}$
PRESTEL	68.1	15.4	7.7	8.8	1.57	50.5	27.1	16.9	5.4	1.77	36.1	27.8	13.9	22.2	2.22	50.6	25.1	14.6	9.7	1.83
TO's SYSTEMS	69.2	15.4	-	15.4	1.70	65.8	13.2	3.1	18.0	1.77	41.7	16.7	2.8	38.9	2.39	61.1	14.4	2.4	22.1	1.85
PRES GATEWAY	23.1	15.4	15.4	46.2	2.85	18.3	16.3	11.9	53.6	3.01	16.7	13.9	8.3	61.1	3.14	18.8	15.6	11.7	53.8	3.01
TRAVICOM	30.8	7.7	-	61.5	2.92	15.9	2.7	0.3	81.0	3.46	30.6	2.8	2.8	63.6	3.00	21.9	3.6	0.8	73.7	3.26
SABRE/AP/PARS	-	-	-	100%	4.00	2.0	1.7	1.7	94.6	3.89	11.1	-	2.8	86.1	3.64	3.6	1.0	1.6	93.7	3.85
DPAS/ACCOUNTS	15.4	-	7.7	76.9	3.46	12.9	1.7	-	85.4	3.58	33.3	-	-	66.7	3.00	17.8	1.0	1.4	79.8	3.43
ABC ELEC	-	-	-	15.4	3.85	6.1	8.8	9.8	75.3	3.54	2.8	13.9	5.6	77.8	3.58	4.3	8.3	9.9	77.5	3.61

There was minimal variance between the three groups as regards the use of these five types of systems. More multiples than the average used Prestel Gateway and Travicom President/Executive with mean scores of 2.85 and 2.92. No multiples in the sample had the use of non-Travicom CRS like Sabre/Apollo or Pars,while 5.4% of independents and 13.9% of combined operators had the systems. A higher number of combined agents and multiples used DPAS or Accounting systems (33.3% and 15.4% as compared with 12.9%) than independent travel agents in the sample.

The bulk of the systems in use were introduced between 1982 and 1984 in most of the agencies queried. 38.5% of multiples, 33.9% of independents and 36.1% of combined agents introduced Prestel into their premises between 1982 and 1984. Again the installation and use of basic user-friendly viewdata systems dominated all three groups, with very low proportions introducing Airline CRS and Accounting systems into the business (Table 7.34).

Table 7.34   YEAR OF INTRODUCTION OF SYSTEMS

	Multiples N=91						Independents N=295						Combined Agents N=108						Total N=494					
	Pre-1978 1	'79-'81 2	'82-'84 3	'85-'89 4	N/A 5	X̄	Pre-1978 1	'79-'81 2	'82-'84 3	'85-'89 4	N/A 5	X̄	Pre-1978 1	'79-'81 2	'82-'84 3	'85-'89 4	N/A 5	X̄	Pre-1978 1	'79-'81 2	'82-'84 3	'85-'89 4	N/A 5	X̄
PRESTEL	7.7	30.8	38.5	7.7	15.4	2.92	6.8	12.5	33.9	29.5	17.3	3.37	-	8.3	36.1	27.8	27.8	3.75	5.5	15.0	35.2	25.1	19.2	3.38
Tour Op Systm	-	15.4	46.2	7.7	30.8	3.54	3.4	8.8	28.1	27.8	31.9	3.76	-	5.6	30.6	19.4	44.4	3.98	2.0	9.3	32.0	22.3	34.4	3.78
Prstl Gateway	7.7	7.7	15.4	7.7	61.5	4.23	1.0	4.4	13.9	18.6	62.0	4.36	-	-	19.4	16.7	63.9	4.44	2.0	4.0	15.4	16.2	62.3	4.32
TRAVICOM	15.4	-	23.1	-	61.5	3.92	0.7	2.7	5.1	7.8	83.7	4.71	-	2.8	13.9	16.7	66.7	4.47	3.2	2.2	10.3	8.3	75.9	4.51
Sabre/Pars/AP	-	-	-	-	100%	5.00	-	0.7	0.3	4.1	94.9	4.93	-	-	2.8	11.1	86.1	4.83	-	0.4	0.8	4.9	93.9	4.92
Acctg/DPAS	-	-	23.1	-	76.9	4.54	0.3	0.7	3.7	7.8	87.5	4.81	-	2.8	11.1	13.9	72.2	4.55	0.2	1.0	8.9	7.7	82.2	4.71
ABC Elctronic	-	-	-	15.4	84.6	4.85	0.3	1.7	3.4	13.2	81.4	4.74	-	-	5.6	11.1	83.3	4.78	0.2	1.0	3.2	13.2	82.4	4.77

The reason for the introduction of systems was another variable on which information was collected in the survey. The responses of these taken togethr with the results of the usage level of particular systems yield useful pointers on travel agent's attitude towards booking systems. Six coded responses were provided to respondents to the question 'What was the reason for the introduction of automation'.

Table 7.35   REASON FOR AUTOMATING

Reason for Automating	Percentage by Survey Group %			
	Mults	Inds	Combined	Total
Competitors did		4.9	5.9	4.2
Was a necessity	76.9	63.1	58.8	64.8
Principals did	23.1	29.3	26.5	27.5
Own choice		1.0	2.9	1.3
Require less staff		0.3		0.2
Increased efficiency		1.4	5.9	2.1
	100.0	100.0	100.0	100.0

Almost two in three travel agents in the sample felt the introduction of computer systems addressd a basic necessity. The second highest 'reason for automating' was to keep up with the principals who had done so. 27.5% of the sample indicated that because of the fact that principals had automated, they were obliged to do so. Results were uniform across the three groups with 29.3% of independents, 26.5% of combined agents and 23.1% of multiples citing principals systems introduction as their reason for automating. Relatively few indicated the influence of any of the other reasons on their decision to introduce computer

systems. A minority of 4.2%. which consisted mostly of independent agents (70%) automated to keep in step with competitors.

These responses may have considerable overlap as the reasons for agents being obliged to automate ('Was a necessity') could have stemmed from any of the reasons below :-

- Principals automate & only allow bookings via systems.

- Increased volume demands more efficient booking and information retrieval syatems.

- Increased competition, and competitors using the systems.

- Demands of clients prompt introduction of systems.

- Inevitable because of general society and industry trend towards automated systems.

Whatever the individual reason or combination of reasons for an agent to deem automation a 'necessity', it points to the inevitable linking of computer reservation systems and travel agency functioning in the future.

H12 **The many applications of the systems are not fully exploited by travel agents.**

It has been seen above that the sample focused on viewdata systems like Prestel and tour operators' systems rather than on Airline CRS and Accounting and Management Information Systems. The main applications of the technology echoed a similar trend with viewdata applications scoring higher average usage levels (Table 7.36). However, even among these applications usage did not seem very high from the sample observed, with only two applications Holiday Reservation and Late Availability obtaining mean scores as high as 1.48 and 1.46 (1=High usage, 2=medium).

Table 7.36   SYSTEMS APPLICATIONS : USAGE LEVELS

	Multiples N=91					Independents N=295					Combined Agents N=108					Total N=494				
	HIGH 1	MED 2	LOW 3	NIL 4	X̄	HIGH 1	MED 2	LOW 3	NIL 4	X̄	HIGH 1	MED 2	LOW 3	NIL 4	X̄	HIGH 1	MED 2	LOW 3	NIL 4	X̄
Late Availability	84.6	15.4	-	-	1.15	69.8	21.4	5.8	3.1	1.42	50.0	13.9	27.8	8.3	1.94	68.2	18.6	9.5	3.6	1.48
Telex/Mailbox	-	38.5	38.5	23.1	2.85	10.2	29.5	41.7	18.6	2.69	36.1	22.2	27.8	13.9	2.19	14.0	29.6	38.1	18.4	2.61
Holidays-Information	30.8	46.2	23.1	-	1.92	22.7	39.3	30.5	7.5	2.23	19.4	25.0	41.7	13.9	2.50	23.5	37.4	31.6	7.5	2.23
Coach/Car Rental	-	23.1	46.2	30.8	3.08	7.8	19.3	40.3	32.5	2.98	8.3	19.4	47.2	25.0	2.89	6.5	20.0	42.9	30.6	2.98
General Information	7.7	30.8	61.5	-	2.54	10.8	34.6	47.1	7.5	2.51	8.3	36.1	47.2	8.3	2.56	9.7	34.2	49.8	6.3	2.53
Hotel Info/booking	15.4	7.7	61.5	15.4	2.77	7.5	27.8	40.0	24.7	2.82	8.3	27.8	44.4	19.4	2.31	9.1	24.1	44.9	21.9	2.80
Airline Information	23.1	30.8	30.8	15.4	2.38	24.1	26.4	41.4	8.1	2.34	19.4	27.8	44.4	8.3	2.42	22.9	27.5	40.1	9.5	2.36
Holidays-Booking	92.3	7.7	-	-	1.08	75.9	11.2	5.1	7.8	1.45	55.6	19.4	11.1	13.9	1.83	74.5	12.3	5.5	7.7	1.46
Brochure ordering	30.8	46.2	15.4	7.7	2.00	14.6	42.0	36.9	6.4	2.35	5.6	27.8	52.8	13.9	2.75	15.6	39.7	36.4	8.3	2.37
Airline booking	69.2	15.4	15.4	-	1.46	32.9	20.7	24.1	22.4	2.36	47.2	5.6	33.3	13.9	2.14	42.7	16.4	24.5	16.4	2.15
Ticketing	38.5	-	38.5	23.1	2.46	14.9	7.5	38.6	39.0	3.02	19.4	22.2	30.6	27.8	2.67	20.2	9.3	36.8	33.6	2.84

Table 7.36   SYSTEMS APPLICATIONS (Continued)

	Multiples N=91					Independents N=295					Combined Agents N=108					Total N=494				
	HIGH 1	MED 2	LOW 3	NIL 4	X̄	HIGH 1	MED 2	LOW 3	NIL 4	X̄	HIGH 1	MED 2	LOW 3	NIL 4	X̄	HIGH 1	MED 2	LOW 3	NIL 4	X̄
Accounting	15.4	7.7	23.1	53.8	3.15	19.0	5.8	19.7	55.6	3.12	27.8	19.4	19.4	33.3	3.07	20.2	19.4	19.4	33.3	3.01
Management Reports	7.7	7.7	46.2	38.5	3.15	9.5	8.8	29.2	52.2	3.23	25.0	8.3	30.6	36.1	2.78	12.6	8.5	32.6	46.2	3.12
Client Records	15.4	7.7	15.4	61.5	3.23	14.2	5.8	20.3	59.7	3.25	16.7	2.8	36.1	44.1	3.08	15.0	5.5	22.9	56.7	3.21
Client Profiles	7.7	7.7	30.8	53.8	3.31	6.8	6.8	31.5	54.9	3.35	-	19.4	27.8	52.8	3.33	5.5	9.7	30.6	54.3	3.03
Itinerary Print	15.4	-	15.4	69.2	3.38	12.9	5.1	21.0	61.0	3.30	30.6	13.9	19.4	36.1	2.61	17.2	6.1	19.6	57.1	3.17
POS displays	-	15.4	46.2	38.5	3.23	2.7	6.4	35.9	54.9	3.43	2.8	2.8	47.2	47.2	3.39	2.2	7.3	40.3	50.2	3.38
E.F.T.	-	7.7	30.8	61.5	3.54	2.4	6.8	30.8	60.0	3.48	-	5.6	36.1	58.3	3.53	1.4	6.7	32.0	59.9	3.50
Invoicing	23.1	-	30.8	46.2	3.00	17.6	5.8	22.7	53.6	3.12	19.4	22.2	22.2	36.1	2.75	19.0	8.3	24.1	48.4	3.00
Statistics	7.7	-	23.1	69.2	3.54	12.9	6.8	21.0	59.3	3.27	16.7	13.9	13.9	55.6	3.08	12.8	7.1	19.8	60.3	3.28
Information Storage	15.4	15.4	23.1	46.2	3.00	12.9	10.8	24.1	52.2	3.16	25.0	13.9	16.7	44.4	2.81	16.0	12.3	22.3	49.4	3.05
Word processing	7.7	-	23.1	69.2	3.54	14.2	8.8	18.6	58.3	3.21	33.3	13.9	19.4	33.3	2.53	17.2	8.3	19.6	54.9	3.12

Of the 22 applications on which usage levels were sought, 50% yielded a mean score of 3 (3=low usage level, 4=nil) or over, indicating a very minimal or nil use of that application. The ´top five´ applications as revealed by the survey were Holidays reservation, Late availability, Airline reservation, Holidays information and Airline information. The usage of the systems for POS displays, EFT, Production of Statistics, client credit records and itinerary printing were the five least used applications across the sample as a whole. The results are tabulated in Table 7.36.

The contention that travel agents do not fully exploit the systems they use is substantiated by the research findings. While viewdata applications were used to a certain extent, the 26.3% of agents who did have Travicom did not respond positively to the many applications offered to them through the CRS. This was investigated further in the Time and Motion Studies where the sample under study consisted of travel agents who had Travicom CRS installed for their use.

H13 The use of computer systems has changed several working practices for travel agents.

While the penetration of systems and the level of usage of certain applications have been proved to be low for the sample, opinions on the changes that were effected from their introduction were unanimously positive. Fourteen items were presented to the sample, and they were asked to decide whether the use of systems had increased, decreased or remained the same in the observed factors.

Table 7.37   CHANGES IN WORKING PRACTICES FROM AUTOMATION

	Multiples N=91					Independents N=295					Combined Agents N=108					Total N=494				
	INCR 1	SAME 2	DECR 3	N/A 4	X̄	INCR 1	SAME 2	DECR 3	N/A 4	X̄	INCR 1	SAME 2	DECR 3	N/A 4	X̄	INCR 1	SAME 2	DECR 3	N/A 4	X̄
Range of information	69.2	23.1	-	7.7	1.46	71.2	18.0	2.7	8.1	1.48	80.6	11.1	-	8.3	1.36	72.9	17.4	1.6	8.1	1.45
Overall costs	46.2	30.8	7.7	15.4	1.92	42.4	31.9	13.9	11.9	1.95	44.4	36.1	11.1	8.3	1.83	43.5	32.6	12.1	11.7	1.92
Accuracy of info.	46.2	30.8	7.7	15.4	1.92	59.3	26.5	4.1	10.2	1.65	83.3	5.6	-	11.1	1.39	62.1	22.7	3.8	11.3	1.64
Staff numbers	23.1	69.2	-	7.7	1.92	11.9	68.8	5.8	13.6	2.20	11.1	75.0	5.6	8.3	2.10	13.8	71.2	4.7	11.3	2.14
Paperwork	30.8	46.2	15.4	7.7	2.00	25.8	41.7	14.6	18.0	2.25	44.4	27.8	11.1	16.7	2.00	30.8	39.5	14.0	15.8	2.15
Company prestige	38.5	53.8	-	7.7	1.77	53.9	32.2	1.7	12.2	1.72	44.4	41.7	-	13.9	1.83	49.0	38.2	1.0	11.7	1.76
Job satisfaction	38.5	30.8	23.1	7.7	2.00	36.9	41.7	7.8	13.6	1.98	52.8	30.6	5.6	11.1	1.75	40.7	37.2	10.1	11.9	1.93
Managerial control	23.1	53.8	15.4	7.7	2.08	25.8	49.2	4.1	21.0	2.20	44.4	38.9	5.6	11.1	1.83	29.4	47.8	6.5	16.4	2.09
Staff productivity	46.2	38.5	7.7	7.7	1.77	50.2	33.9	3.4	12.5	1.78	63.9	25.0	2.8	8.3	1.56	52.4	32.8	4.0	10.7	1.73
Volume of sales	69.2	15.4	7.7	7.7	1.54	42.7	41.7	1.0	14.6	1.87	52.8	33.3	2.8	11.1	1.72	49.8	35.0	2.6	12.6	1.78
Speed of selling	69.2	7.7	15.4	7.7	1.62	66.8	21.4	3.7	8.1	1.53	66.7	22.2	2.8	8.3	1.53	67.2	19.0	5.7	8.1	1.55
Customer satisfction	53.8	30.8	7.7	7.7	1.69	53.2	34.2	1.0	11.5	1.71	52.8	30.6	2.8	13.9	1.78	53.2	32.8	2.6	11.3	1.72
Quality of service	61.5	23.1	7.7	7.7	1.62	57.3	28.8	4.7	9.2	1.66	66.7	22.2	2.8	8.3	1.53	60.1	26.2	4.9	8.7	1.62
Variety of services	53.8	38.5	-	7.7	1.62	34.2	48.5	2.4	14.9	1.98	41.7	41.7	-	16.7	1.92	39.5	44.1	-	16.7	1.90

On average there was found to be a minimal or no effect on staff numbers, managerial control, paperwork and documentation, overall costs and variety of services (mean scores for these factors ranged between 1.9 to 2.15, where 1=increase, 2=no change, 3=decrease). The range of information was thought to have increased from the use of the systems by 72.9% of the sample. There were other factors where increases were noted by the respondents and these included speed of selling (mean=1.55), quality of service (1.62), accuracy of information (1.64), customer satisfaction (1.72), staff productivity (1.73), company prestige (1.76) and volume of services sold (1.78). The results noted were quite uniform across the three groups as regards their changes in certain working practices from the use of computer systems. These are presented in Table 7.37.

H14 Opinions on the advantages and disadvantages of using computers vary.

Agents were also queried on the advantages and disadvantages that were perceived by them as a result of introducing computer systems. Again a set of coded responses were provided for each, and an open category was provided for any 'other' answer not coded in. The overall results as well as the percentages for each of the top five advantages are in the tables below. The five top advantages cited individually were as follows, with the percentage who chose the response next to it.

Table 7.38   ADVANTAGES OF AUTOMATION : TOP FIVE

Advantage	Percentage of individual responses
Greater Accuracy	68.4%
Ease of reservations	65.3%
Client impressed	52.1%
Speedy information retrieval	42.3%
Greater staff productivity	33.3%

The results are slightly different however when all the responses were aggregated and averaged, accounting for the existence of multiple response answers. The aggregated results of the advantages from computersiation are given below, in descending order with the most commonly cited advantage at the top.

Table 7.39   ADVANTAGES OF AUTOMATING : Multiple Responses

Advantage of Using Systems	Percentage of sample´s responses
Ease of Reservations	19.4 %
Greater accuracy of information	15.5 %
Speed of information retrieval	13.4 %
Better image	11.7 %
Client is impressed	11.2 %
Telephone savings	7.8 %
Greater staff productivity	7.6 %
Paperwork reduced	5.4 %
Competitive advantage	4.1 %
More managerial control	3.2 %
All advantages ticked	0.5 %
No advantages	0.1 %
Other	0.1 %
	100.0 %

Similarly the results for the disadvantages from automating were also analysed. When the frequency of individual responses were taken, 'Systems failing' (i.e. System downtime) was considered to be the most frequently occuring disadvantage. The top five disadvantages are presented in tabular form in Table 7.40. One in four agents saw the variety of systems as a disadvantage. The variety of systems meant that agents had different entries and output displays for each principal on the systems. This is a disadvantage that has been recognised, and is being addressed by travel principals. For instance standardising entries and outputs is an aim of the new CRS systems like Galileo and Amadeus that are currently being developed.

23.1% of agents felt that with the use of automation there was a loss of personal contact in transactions. This can be between the principal and the agent, or the agent and the client. One in five felt that there was an over reliance on the systems, and cited this as a disadvantage. In the preliminary research stages interviewed agents felt that with increased automation their job would be made easier, but also that it would be undermined. They opined that special skills and knowledge that were traditionally needed for travel agency staff would be replaced by the system's store of facts and figures. This over reliance could be a side effect of this development. Agents have less knowledge and a greater dependence on the information systems. As a consequence, while the systems are unavailable staff may not have the 'back-up' knowledge and resources to deal with situations.

Table 7.40   DISADVANTAGES OF AUTOMATION : TOP FIVE

Disadvantage	Percentage of individual responses
Systems failing	71.5%
Variety of systems confusing	26.5%
Lack of personal contact	23.1%
Over-reliance on systems	20.2%
Supplier follow-up poor	19.2%

The most frequent disadvantage of automation cited was that the systems failed or were unreliable. However the Air Research study recorded that only 7% of the total transactions observed were affected by system downtime. They claim that where the system was seen to have deficiencies, the benefits of the technology were inaccessible because of a lack of staff experience. The unsuitability of staff was recorded as a disadvantage by 5.8% of the survey sample, but it can be overcome by better training.

Table 7.41 DISADVANTAGES OF AUTOMATING : Multiple Responses

Disadvantage of Using Systems	% age of sample responses
Systems failing /unreliable	19.1 %
No personal contact	14.3 %
Over-reliance on systems	13.2 %
Variety of systems confuse	11.4 %
Large telephone bills	9.7 %
Supplier follow-up poor	8.0 %
Gives biased information	6.0 %
Unsuitable staff	5.8 %
More mistakes committed	1.1 %
No disadvantages	0.8 %
All disadvantages ticked	0.1 %
Other	0.2 %
	100.0 %

7.9 Productivity figures

H15 Travel agents have low productivity and profitability figures.

Nearly half the sample had a turnover figure of under £1 million, with independents accounting for 73.2% of this group. 59% of independents were in this range as compared with 39.7% of combined agents and 23.1% of multiples. The multiples had turnover predominantly in the £1-£3 million range (46.2%), with one in 6 (15.4%) recording a turnover of between £5-£6 million. In total 30.8% of multiples had a turnover exceeding £4 million as compared with 16.8% of combined agents and only 5.7% of independents.

Approximately one in three agents in the sample as a whole recorded profit figures of under £5000 per annum. Nearly two-thirds (62.6%) of the sample as a whole recorded staff costs of between £18000 and £54000 per annum. It is possible to estimate from this figure that on average there are 2 to 6 staff working in a travel agency (assuming staff costs of £9000 per head per annum).

The financial figures collected from the sample have been grouped and tabulated, and these are the subject of the four tables that follow. Table 7.42.1 details turnover figures, 7.42.2 details profit and depreciation, 7.42.3 gives staff costs and Table 7.42.4 details capital employed.

Table 7.42.1 <u>TURNOVER</u>

Type of Agency	Under £300k 1	£300k-£600k 2	£600k-£1mn 3	1mn-2mn 4	£2mn-£3mn 5	£3mn-£4mn 6	£4mn-£5mn 7	£5mn-£6mn 8	£6mn-£7mn 9	£7mn-£8mn 10	£8mn-£9mn 11	£9mn-£10mn 12	£10mn & over 13	$\bar{X}$
MULTIPLES n = 91	-	-	23.1	38.5	7.7	-	7.7	15.4	-	-	-	-	7.7	5.38
INDEPENDENTS n = 295	12.2	21.0	26.1	24.1	8.1	2.7	0.7	2.0	0.3	0.3	0.3	0.7	1.4	3.43
COMBINED AGT n = 108	8.3	12.0	19.4	29.6	5.6	8.3	-	2.8	-	-	5.6	2.8	5.6	4.76
TOTAL n = 494	9.1	15.2	24.1	27.9	7.5	3.4	1.8	4.7	0.2	0.2	3.4	1.0	3.4	4.07
N =	45	75	119	138	37	17	9	23	1	1	7	5	17	

Table 7.42.2 PRE-TAX PROFIT AND DEPRECIATION

Type of Agency	Under £2500 1	£2501-£5000 2	£5001-£7500 3	£7500-£10k 4	£10k-£12501 5	£12.5k-£15k 6	£15001-£17.5k 7	£17501-£20k 8	£20001-£22.5k 9	£22501-£25k 10	£25001-£27.5 11	£27501-£30k 12	£30001 & over 13	X̄
MULTIPLES n = 91	-	15.4	15.4	17.6	3.3	1.1	-	-	8.8	-	15.4	-	23.1	7.19
INDEPENDENTS n = 295	21.7	13.6	8.5	8.1	3.7	7.5	4.1	2.7	2.7	4.1	1.0	3.7	18.6	5.84
COMBINED AGT n = 108	14.8	13.9	6.5	2.8	3.7	8.3	2.8	2.8	5.6	-	-	-	38.9	7.39
TOTAL n = 494	16.2	14.0	9.3	8.7	3.6	6.5	3.0	2.2	4.5	2.4	3.4	2.2	23.9	6.43
N =	80	69	46	43	18	32	15	11	22	12	17	11	118	

Table 7.42.3 <u>STAFF COSTS</u>

Type of Agency	£18k under 1	£18001 -£36k 2	£36001 -£54k 3	£54001 -£72k 4	£72001 -£108k 5	£108001 -£162k 6	£162001 -£216k 7	£216001 -£288k 8	£288001 -£360k 9	£360001 -£414k 10	£414001 -£468k 11	£468001 -£540k 12	£540001 & over 13	$\bar{X}$
MULTIPLES n = 91	-	16.5	18.7	17.6	16.5	15.4	-	7.7	-	-	7.7	-	-	4.80
INDEPENDENTS n = 295	29.5	30.2	15.6	8.8	3.7	5.4	2.0	1.4	1.0	0.7	-	1.0	0.7	2.85
COMBINED AGT n = 108	16.7	17.6	16.7	15.7	5.6	8.3	2.8	-	5.6	2.8	-	8.3	-	4.48
TOTAL n = 494	21.3	24.9	16.4	11.9	6.5	7.9	1.8	2.2	1.8	1.0	1.4	0.6	2.2	3.57
N =	105	123	81	59	32	39	9	11	9	5	7	3	11	

Table 7.42.4 CAPITAL EMPLOYED

Type of Agency	Under £25000 1	£25001 £50000 2	£50k- £75k 3	£75001 -£100k 4	100001 -£125k 5	125001 -£150k 6	150001 -£175k 7	175001 -£200k 8	200001 -£225k 9	225001 -£250k 10	250001 -£275k 11	275001 -£300k 12	300001 & over 13	$\bar{X}$
MULTIPLES n = 91	46.2	1.1	-	-	-	-	-	15.4	-	7.7	-	-	-	3.89
INDEPENDENTS n = 295	47.8	20.7	10.5	8.1	1.4	3.7	-	1.4	1.0	0.7	0.7	1.0	3.1	2.68
COMBINED AGT n = 108	22.2	31.5	11.1	11.1	-	1.9	2.8	2.8	-	-	-	-	13.9	4.21
TOTAL n = 494	41.9	19.4	8.7	10.5	1.2	4.5	0.6	4.3	1.2	1.8	0.4	0.6	4.9	3.24
N =	207	96	43	52	6	22	3	21	6	9	2	3	24	

7.10   Opinions

H16   There is a variance in the perception of different types of travel agents on statements relating to their role, future and the use of technology.

1)   Multiple travel agents will get a larger market share because of the computer systems they are able to use.

Of the total sample 35.8% agreed or agreed fully to the statement, while a higher number of 45.7% disagreed. Residual values for multiples in the 'disagree' category fell short by 14.6% indicating that less multiples disagreed with the statement than was expected. Combined agents had lower residuals with a positive 6.3% agreeing and a negative 4.4% disagreeing.

The test statistic Chi-square was found to be higher than the critical value, and the Null hypothesis of no difference was rejected at the 0.05% of significance. the significance level from the SPSSx output indicated that there was a 4.6% chance in 1000 that observed frequencies would occur if the Null hypothesis of independence was true.

The measures of association based on Chi-square revealed relatively low readings - 0.16038 and 0.22119 are relatively low on a scale of 0 to 1 - indicating a weak strength of association between type of company and the response to the statement.

2)   A <u>travel agent without viewdata systems can do as well</u>
     <u>as one with the systems.</u>

A high percentage of the sample (84.4%) disagreed with the
contention that an agent without viewdata can do as well as
one with viewdata systems. Residuals in the categories were
small indicating that results were pointing to statistical
independence.

The critical Chi-square was lower than the test statistic
prompting a rejection of the Null hypothesis of
independence. There was a low chance that observations found
would occur if the hypothesis of no difference was true. The
measures of association also indicated a weak relation
between travel agency type and opinion on the use of
viewdata.

3)   <u>Travel staff will try and promote those services whose</u>
     <u>reservation systems they find easy to use.</u>

The opinion was unanimous amongst all three groups that
staff will tend to sell products with whose booking
system/CRS they are most familiar with. 94% of the sample
agreed or agreed fully with the assertion, while only 3.8%
disagreed. Residual values between observed and expected
frequencies were low and consequently a low Chi-square was
obtained. This statement was the one that the least number
(2%) in the sample were ´UNSURE´ of answering.

4) <u>Independent agents need to group into consortia to be able to gain benefits of computerised systems.</u>

Half or 50.6% of the sample agreed that independents needed to group into consortia. A very high percentage of agents (28.9%) were unsure of the answer, and this was the statement which had the highest number of unsure responses of the fourteen.

Then combined agents agreed most with the statement (55.6%) and only 13.9% disputed it. Amongst the groups who disagreed 70% were independents, 14% were multiples and 15% were combined agents.

5) <u>The average customer finds a travel agent more credible if he uses computers in his office.</u>

While 81% of the sample agreed that the computerised agent had more credibility, it is interesting to note that only the independents showed any degree of disagreement, albeit 6%. Residuals were fairly small, except in the unsure category.

6) <u>Travel agency staff are wary of losing their jobs due to the introduction of computers.</u>

81.2% of the sample disputed the statement that staff were wary of losing jobs because of computerisation. Only 5.35 agreed and these were from the independent and combined agent groups.

7) <u>It is the responsibility of principals,</u> not <u>the</u> agent <u>to do marketing and promotional tasks.</u>

There was a balance of opinion on whose responsibility promotional tasks were to be placed. 33.8% agreed that principals must undertake it while a higher proportion of 48% disagreed that it was the principals responsibility. Of those who agreed only 20% were multiples as opposed to 63% of independents.

8) <u>Travel agents must do preferential selling of products to obtain override commissions.</u>

Close to three-fourths of the sample (70%) agreed with the statement that they must aspire for override by being partial to the services of certain principals. This is a significant indication that travel agents are beginning to reconsider their unbiased nature, forced to do so by profitability figures and survival issues. More independents and combined agents agreed to the policy of preferential selling than multiples (70.9 and 75% to 61.6% of multiples agreeing).

Air Research results indicated that no hard sell efforts were attempted by travel agents so as to keep the unbiased advice that clients expect from them. But with reduced profit margins and increased competition Air Research consultants too recommend that a certain degree of preferential selling and persuasive selling techniques will become a necessary feature of travel agency functioning in the future.

9) <u>Travel agents will face a threat from other outlets like supermarkets, mail order, department stores etc.</u>

Nearly one in seven agents of the whole sample were unsure of the effect of competition from alternate forms of outlets. The results varied considerably over the three groups with 30.8% of multiples, 13.9% of independents and only 2.8% of combined agents unsure of estimating the threat from alternate retailing forms.

In fact the highest group figure for agreeing to the statement was from the combined agent group 77.8% as compared with 61.6% of multiples and 73.9% of independents. But overall results indicated that travel agents were on general expecting business competition from alternate retail outlets (like supermarkets, mail order and department stores) with 68.3% of the sample agreeing with the contention.

10) <u>There is less of personal contact and less of a rapport between agents and principals because of automation.</u>

One of the consequences of major principals (eg: Thomson Holidays) accepting bookings only via the reservation systems is that travel agents cannot directly speak with those principals. In the data collection stage industry opinion pointed to this as a cause of a distance between principals and their distribution intermediaries.

Of the total sample 65.8% agreed that there would be less of a rapport, but 24.7% or nearly one in four of the sample disagreed that there was a distance placed between principals and themselves because of systems. The multiples were the largest group to contend the statement (38.5%) as

compared to 22.4% of independents and 19.5% of combined agents.

This might be explained by the fact that multiples use a high proportion of principal's training facilities and principals are considered to 'woo' the larger multiples with substantial support and marketing incentives. This mutual relationship and dependency is independent of influences experienced due to booking via a reservation system.

11) <u>The travel agent has assumed a role similar to a computer operator because of automation.</u>

The reaction to the suggestion that their job had been reduced to the status of computer operator because of automation did not recieve an equivocal rejection. Only half the sample (51.3%) reacted negatively to the statement, while 16.6% were unsure, and 31.4% agreed with the statement.

Independents collectively disagreed most to the statement (59%) while only 30.8% of multiples and 47.2% of combined agents were opposed to it. In fact nearly half of the multiples surveyed (46.2%) agreed that their jobs had assumed a role similar to a computer operator, as compared to 30.5% of combined agents and only 27.1% of independents. However, while multiples and a sizable number of the whole sample did agree that their work was more mechanical due to the introduction of computers, they did not feel that this meant the knowledge and experience required for the job had lessened in standard as the analysis of the next statement reveals.

12) <u>With the increased use of automation, staff will need less experience and knowledge of facts.</u>

This contention was drawn up after the field research stage when several agents interviewed expressed the statement above as a possible negative effect of automation on staff abilities. They opined that staff would not need to have a personal interest or knowledge of travel destinations and products as information could be provided to a lay-man through 'the touch of a button'. A need to be able to move around the system and locate information was thought to have become a bigger training priority than the ability to retain knowledge about travel products and services.

Nearly three-fourths (71.3%) of the sample disagreed that with automation the experience and knowledge levels of staff would be lowered. The high mean score of 3.66 was followed in all three groups with independents with a mean rank of 3.81, multiples with 3.43 and combined agents with 3.36. Just as for the earlier statement the highest proportion of those who agreed that the need for staff knowledge had diminished were the multiples with 30.8% agreeing as opposed to 15.2% of independents and 27.8% of combined agents. This might be a result of the intensive training on systems and selling that multiples hold for staff where prior knowledge or experience of the travel industry is not always a prerequisite.

13) <u>In the next ten years travel agents will have less of a booking role and more of a consultative role.</u>

Quizzed on their future role, only 39.5% of the sample felt

they would move to a consultative one, but nearly one in four agents were unsure of their role in the next 10 years. 33.2% disagreed with the contention. Responses in the UNSURE category was relatively high in all three groups with 27.8% of combined agents, 23.75 of independents and 23.1% of multiples being unable to agree or disagree for sure. Combined agents (41.6%) and Independents (41.4) agreed the most about their future consultative role followed by a fewer proportion of multiples (30.8%).

14) <u>There is a lack of staff training in the use of computer and viewdata systems.</u>

Over half the sample or 56.5% agreed that staff did not get sufficient training in the use of booking systems. One in six were unsure, while the remaining 27.3% found that training was adequate. A high proportion of multiples agreed (61.5%) when compared with 55.3% of independents and 55.5% of combined agents.

A summary of the survey responses to the 14 statements above is presented in Table 7.43. Individual frequencies and the mean attitudinal ranking of each is cross tabulated by type of agency. The categories across the top scaling the extent of agreement to the statements are abbreviated as below :-

1.	A.F.	=	Agree fully
2.	A.	=	Agree
3.	U.	=	Unsure
4.	D.	=	Disagree
5.	D.F.	=	Disagree fully

Table 7.43   Attitudinal Profile

	Multiples N=91						Independents N=295						Combined Agents N=108						Total N=494					
	A.F. 1	A. 2	U. 3	D. 4	D.F. 5	X̄	A.F. 1	A. 2	U. 3	D. 4	D.F. 5	X̄	A.F. 1	A. 2	U. 3	D. 4	D.F. 5	X̄	A.F. 1	A. 2	U. 3	D. 4	D.F. 5	X̄
1. Multiples larger market share due to systems	7.7	30.8	30.8	23.1	7.7	2.92	6.1	26.8	14.6	40.7	11.2	3.22	13.9	27.8	16.7	33.3	8.3	2.94	8.1	27.7	18.0	35.8	9.9	3.11
2. Agents w/out viewdata do as well as those with	-	-	-	53.8	46.2	4.46	2.0	9.2	5.8	48.1	33.9	4.00	2.8	8.3	11.1	50.0	27.8	3.92	1.8	7.3	5.9	49.6	34.8	4.06
3. Staff sell services with familiar CRS	38.5	61.5	-	-	-	1.62	35.3	55.6	3.4	4.7	0.7	1.82	47.2	50.0	-	2.8	-	1.58	38.5	55.5	2.0	3.4	0.4	1.71
4. Independents need to form consortia	15.4	30.8	38.5	15.4	-	2.63	23.1	27.1	25.4	19.3	5.1	2.56	13.9	41.7	30.6	13.9	-	2.44	19.6	31.0	28.9	17.4	3.0	2.53
5. Computerised agent more credible	30.8	53.8	15.4	-	-	1.85	19.3	61.7	9.2	9.2	0.7	2.10	19.4	58.3	22.2	-	-	2.03	21.5	59.5	13.2	5.5	0.4	2.04
6. Staff wary of losing job from automation	-	-	15.4	61.5	23.1	4.08	0.7	6.1	10.8	65.1	17.3	3.92	-	5.6	19.4	66.7	8.3	3.78	0.4	4.9	13.6	64.8	16.4	3.92
7. Principals must do promotional tasks	-	38.5	7.7	53.8	-	3.15	8.8	26.8	21.0	36.6	5.8	3.01	8.3	16.7	16.7	44.4	13.9	3.39	7.1	26.7	17.6	41.5	6.5	3.12

Table 7.43   Attitudinal Profile (Continued)

	Multiples N=91						Independents N=295						Combined Agents N=108						Total N=494					
	A.F. 1	A. 2	U. 3	D. 4	D.F. 5	X̄	A.F. 1	A. 2	U. 3	D. 4	D.F. 5	X̄	A.F. 1	A. 2	U. 3	D. 4	D.F. 5	X̄	A.F. 1	A. 2	U. 3	D. 4	D.F. 5	X̄
8. Preferential selling for more override	23.1	38.5	15.4	23.1	-	2.38	21.7	49.2	11.9	14.9	2.0	2.25	19.4	55.6	8.3	11.1	5.6	2.28	21.5	48.6	11.7	15.6	2.4	2.2
9. Agents face threat from other outlets	15.4	46.2	30.8	7.7	-	2.31	16.9	49.8	13.9	17.6	1.7	2.37	38.9	38.9	2.8	16.7	2.8	2.06	21.5	46.8	14.6	15.6	1.6	2.2
10. Less principal-agent contact and support	15.4	38.5	7.7	23.1	15.4	2.74	24.7	45.4	7.1	19.7	2.7	2.29	25.0	38.9	13.9	16.7	2.8	2.25	23.1	42.7	8.7	19.6	5.1	2.?
11. Agent's role similar to a computer operator	7.7	38.5	23.1	30.8	-	2.77	5.4	21.7	13.6	50.5	8.5	3.34	11.1	19.4	19.4	47.2	-	2.97	7.1	24.3	16.6	46.2	5.1	3.1
12. Staff need less knowldge and experience	-	30.8	-	53.8	15.4	3.43	5.4	9.8	7.8	50.8	25.8	3.81	-	27.8	11.1	44.4	13.9	3.36	3.2	17.6	7.1	50.0	21.3	3.6
13. Agent has consultative role in the future	15.4	15.4	23.1	23.1	15.4	2.74	7.8	33.6	23.7	31.2	3.4	2.88	8.3	33.3	27.8	22.2	2.8	2.61	9.3	30.2	24.5	27.7	5.5	2.6
14. Lack of staff training in computers	7.7	53.8	15.4	23.1	-	2.54	12.2	43.1	13.2	29.5	2.0	2.66	8.3	47.2	19.4	16.7	2.8	2.42	10.5	46.0	15.0	25.5	1.8	2.5

Overview of Agent's Opinions

A grid follows which gives an overall picture of the sample's reaction to the various attitudinal variables measured in the General Opinions section of the survey. The statements are ranked by their mean scores (between 1 and 5) where 1 signifies total agreement, and 5 signifies total disagreement.

Table 7.44   SUMMARY OF STATEMENTS WITH ATTITUDINAL RANKING

Statement	Mean Value
Services with familiar CRS promoted	1.71
Computerised agent more credible	2.04
Preferential selling to obtain override	2.28
Agents face a threat from other outlets	2.29
Less of an agent/principal rapport	2.38
Independent agents to form consortia	2.53
Lack of staff training in computers	2.59
Consultative role in the future	2.83
Multiples larger market share	3.11
Principals must do promotional tasks	3.12
Role similar to a computer operator	3.15
Staff need less experience & knowledge	3.66
Staff are wary of losing their jobs	3.92
Agents without viewdata do as well	4.06

Note : 1=Agree fully,   2=Agree,   3=Unsure,   4=Disagree,
       5=Disagree fully.

The most agreed with statement with a mean value of 1.71 was that staff will promote services whose CRS they are familiar with. While travel agents assert that their unbiased nature is to be retained, it is interesting to note how agents can be persuaded to sell certain products if they are well versed with the systems that access these products. This is a powerful incentive to principals to improve communications with agents, back up with training and even costs of installation and equipment in an attempt to woo the agents loyalty to their booking system. This has been recognised by the airline world, and competition has increased in the battle for 'CRS share' with the development of new collaborative CRS systems like Galileo and Amadeus. Air Research results also backed up the view that agents sell products from familiar CRS and this has been discussed above.

The other statements that the sample agreed to the most were that the computerised agent was more 'credible', the need to do preferential selling for override, the threat from alternate forms of distribution, the diminishing of the principal/agent rapport and the establishing of consortia by independent agents to face survival issues.

The opinions that agents were unsure of answering (or were neutral) were the adequacy of staff training in computers, whether agents would have a consultative role in the future, that multiples had a larger market share because of the systems they had access to, whether promotion was the task of the principals and that the job of a travel agent resembled that of a computer operator with the introduction

of automated systems.

Agents across the sample disagreed on average to the last three statements in the summary table above. They refuted the claim that sales staff would need less experience and knowledge once computers were introduced and used in the agency. The contention that staff were wary of losing their jobs because of automation was also disagreed with by most of the sample. The statement that was most strongly refuted was the one that asserted that an agent without viewdata systems could do as well as one with the systems. This establishes without a doubt that travel agents link success and performance strongly to the usage of automated systems.

7.11 Productivity Determinants

H17 Opinions vary as to what factors constitute success in a travel agency.

Respondents were provided with 14 coded responses which were thought to contribute or cause the success or failure of travel agents. This list had been drawn up after the intensive desk research, the initial field research and the pre-test and the pilot questionnaires. Two fields were provided with an open OTHER option for any other responses not coded to be entered. Respondents were asked to rank what they thought were the five most important contributors to their success, marking 1 for the most important and so on. The results were analysed by tabulation and normalising to scale down the average response obtained to the number in the sample who responded to it. The tabulations and the corresponding ranking obtained are in Table 7.45.

Table 7.45 SUCCESS FACTORS

	Multiples N=91						Independents N=295						Combined Agents N=108						Total N=494					
	1	2	3	4	5	RANK	1	2	3	4	5	RANK	1	2	3	4	5	RANK	1	2	3	4	5	RANK
Location	63	-	-	-	-	10	177	4	1	-	-	10	51	-	-	-	-	10	291	4	1	-	-	10
Reputation	14	14	28	14	-	7.5	29	84	100	43	4	9.6	15	12	60	6	6	12.6	58	110	188	63	10	9.7
Managerial Ab	14	28	-	-	-	5.8	57	98	8	-	1	7.8	15	42	6	-	-	10.2	86	168	14	-	1	7.8
Sales/promotn	-	14	21	-	-	3.8	11	48	49	7	-	4.5	6	30	12	9	-	8.0	17	92	82	16	-	5.0
Staff experie	-	7	21	21	-	4.2	-	6	37	75	70	3.9	-	-	12	27	15	4.1	-	13	70	123	85	4.0
Familiarity	-	7	6	7	7	1.7	1	15	45	45	13	3.4	-	12	3	36	-	5.1	1	34	55	88	20	3.4
Range of serv	-	7	-	-	7	1.1	-	11	37	56	48	3.5	-	3	15	12	27	4.2	-	21	52	68	82	3.1
Liaisn w/prin	-	7	-	-	-	0.9	15	21	-	-	-	1.8	21	9	-	-	-	5.5	36	37	-	-	-	2.2
Computers	-	-	-	14	14	1.3	-	1	7	19	23	1.0	-	-	-	3	6	0.5	-	1	7	36	43	0.9
Speed of serv	-	-	-	-	21	0.7	-	-	1	8	36	0.6	-	-	-	-	24	0.9	-	-	1	8	81	0.7

The success factors are in the left column, and the actual numbers who ticked these are given in the particular ranking they were classed under, for each type of agency. For instance the factor 'REPUTATION' was ranked by the independents as follows - 29 ranked it 1, 84 ranked it 2, 100 ranked it 3, 43 ranked it 4 and 4 ranked it 5. The scores in each category were multiplied by a corresponding number (Rank 1=5, ...rank 5=1) and the sum of these weighted scores were divided by a constant number. The number chosen yielded '10' as the score for LOCATION, and all other factors were scaled up or down to be compared to the control factor of Location. The five top factors for success in the three groups, as well as for the sample as a whole is presented in tabular form below. While multiples and independents did not vary greatly in the factors they chose and ranked, the combined agents were vastly different in their choice of success factors.

Table 7.46   CONTRIBUTORS TO SUCCESS - TOP FIVE FACTORS

RANK	1	2	3	4	5
M	Location	Reputation	Managerial abilities	Staff expertise	Sales and Promotion
I	Location	Reputation	Managerial abilities	Sales & Promotion	Staff expertise
C	Reputation	Managerial abilities	Location	Liaison with principals	Familiarity
A	Location	Reputation	Managerial abilities	Sales & Promotion	Staff expertise

Note: M=Multiples, I=Independents, C=Combined agents, A=All in sample.

Multiples and independents concurred perfectly on the first

three contributors of success - Location, Reputation and Managerial abilities. Multiples rated staff expertise higher than sales promotion, while independents ranked sales and promotion at 4, and staff expertise at 5. The combined agents group ranked Reputation as the paramount contributor to success. Managerial abilities was next, and Location, a factor that was the foremost for multiples and independents, was ranked 3 by the combined agents. The fact that combined agents have an element of tour operation might explain this variance. The need for a retail travel agent to have a good location is of prime importance, but for a tour operator who accesses potential clientele via retailers and other modes (eg: mail, telephone etc) location is not of paramount importance. Combined agents ranked having a good 'Liaison with principals' as the fourth most important success factor. This again can be explained by the element of wholesaling that exists in the combined agents group. Travel wholesalers or tour operators use retailers for the distribution of their product and the relationship and the liaison or communication that they develop with these intermediaries is a major contributory factor to their success. The fifth success factor as seen by combined agents was familiarity. Here again since combined agents are selling their own tours as part of their product line, clients' familiarity with their agency and their product is more important to them than it is to the other two groups. Overall results for the whole sample threw up the five factors that the first two agency groups chose and were in the same order that the independents used. The overall success factor rankings after the top five are in Table 7.47

Table 7.47   OVERALL RESULTS - OTHER SUCCESS FACTORS

Familiarity	3.4
Range of Services	3.1
Liaison with principals	2.2
Computers	0.9
Speed of Service	0.7
Price	0.5
Staff training	0.3
External factors	0.3
Competition	0.2

Factors in the 'OTHER' category provided to respondents for open answers (i.e. not included in the coded ones) yielded several responses. Since very few of the sample as a whole indicated each of these categories overall scores were low, averaging between 0.02 and 0.09. The main open responses are listed below :-

- Pleasing the client / Customer satisfaction
- Quality of the service
- Maintaining a personal contact with clients
- Good attitude and consistency of approach to client
- Incentives
- Specialist services
- Override commission obtainable

7.12   Productivity Measurement of Sample

A primary objective of this study was to calculate the value added of a sample of travel agents and compare value added

per head across the three groups in the sample. Once the output had been calculated it was to be converted to unit output, and related inputs like staff numbers and capital were to be weighted against the unit output measure. OPTSUR, a Fortran program written to establish an Efficiency production isoquant was then to be applied to the various inputs to establish patterns of productivity in the observed sample.

7.12.1 Calculation of Labour Productivity

As described in Chapter 2 (Section 2.10.3) the summative method of calculating value added was adopted. All financial figures were adjusted to remove inflationary effects. This was possible as along with the financial data obtained from the respondents, the month and year of the accounts was also queried. Midpoints were taken from the financial ranges that agents had 'ticked' in the questionnaire. Ranges were provided as in the pre testing and pilot survey stages respondents were reluctant to put down exact financial figures, but were not averse to indicating a range between which their figures lie. Further, to encourage a good response rate in the financial profile section the profit figures were 'disguised' by providing ranges for profits together with depreciation. All 494 respondents in the sample gave the required financial information in the main survey.

The figures detailing the value added totals as well as the value added per head ratios are the subject of the two tables that follow.

Table 7.48   Value Added figures for the Sample

Value Added	Multiples N=91		Independents N=295		Combined N=108		Total N=494	
£ 000s	No.	%	No.	%	No.	%	No.	%
300 – 400	–	–	2	0.7	3	2.8	5	1.0
200 – 299	–	–	4	1.4	1	0.9	5	1.0
100 – 199	15	16.5	21	7.1	11	10.2	47	9.5
90 – 99	7	7.7	5	1.7	9	8.3	21	4.2
80 – 89	–	–	2	0.7	–	–	2	0.4
70 – 79	2	2.2	14	4.7	4	3.7	20	4.1
60 – 69	1	1.1	23	7.8	16	14.8	40	8.1
50 – 59	23	25.3	21	7.1	8	7.4	52	10.5
40 – 49	–	–	38	12.9	4	3.7	42	8.5
30 – 39	8	8.8	70	23.7	24	22.2	102	20.7
20 – 29	21	23.1	72	24.4	15	13.9	108	21.9
10 – 19	14	15.4	19	6.4	13	12.0	46	9.3
Under 10K	–	–	4	1.4	–	–	4	0.8
	91	100.0	295	100.0	108	100.0	494	100.0

The summative calculation yielded the above results for the total value added figure of the sample. The majority of the sample (42.6) had the figure of value added for the company as a whole lying between £20,000 to £40,000 per annum. Only 2% of the sample, comprising independents and combined agents produced an annual value added figure of over £200,000. About one in ten or 9.51% (this comprised 31.9% of multiples, 44.6% of independents and 23.4% of combined agents) had a value added of between £90,000 and £100,000 per annum. While the additive figures above give us an indication of the scales and magnitude of annual value added, comparison between groups is facilitated by looking at the figures scaled down to the number of staff working to

produce the figure. In other words a better picture can be obtained by calculating value added per head and comparing this across the three groups. This comparison follows in Table 7.49.

Table 7.49   Labour Productivity of the Sample

Value Added per head £ 000s	Multiples N=91		Independents N=295		Combined N=108		Total N=494	
	No.	%	No.	%	No.	%	No.	%
20 +	15	17.9	14	5.3	10	10.0	39	8.7
19 - 20	-	-	2	0.8	1	1.0	3	0.7
18 - 19	-	-	2	0.8	3	3.0	5	1.1
17 - 18	-	-	3	1.1	3	3.0	6	1.3
16 - 17	-	-	8	3.1	-	-	8	1.8
15 - 16	-	-	2	0.8	-	-	2	0.4
14 - 15	-	-	6	2.3	3	3.0	9	2.0
13 - 14	9	10.7	13	5.0	-	-	22	5.0
12 - 13	-	-	9	3.4	-	-	9	2.0
11 - 12	-	-	20	7.6	9	9.0	29	6.5
10 - 11	3	3.6	23	8.8	6	6.0	32	7.2
9 - 10	-	-	17	6.5	15	15.0	32	7.2
8 - 9	14	16.7	27	10.3	1	1.0	42	9.4
7 - 8	14	16.7	27	10.3	6	6.0	47	10.5
6 - 7	8	9.5	39	14.9	9	9.0	56	12.5
5 - 6	14	16.7	22	8.4	17	17.0	53	11.9
4 - 5	-	-	13	5.0	6	6.0	19	4.3
3 - 4	-	-	8	3.1	3	3.0	11	2.5
2 - 3	7	8.3	2	0.8	3	3.0	12	2.7
1 - 2	-	-	1	0.4	-	-	1	0.2
Under 1	-	-	4	1.5	5	5.0	10	2.2
Valid N=	84	100.0	262	100.0	100	100.0	447	100.0
N / A	7		33		8		47	
TOTAL	91		295		108		494	

NOTE : Only the valid percentage (i.e. excluding missing values) have been calculated and tabulated above.

The group which recorded the highest frequency of a value added per head figure above £20,000 was the multiple group of agents, with 17.9% in this range. 5.3% of independents and 10% of combined agents had labour productivity ratios (or value added per head) as high as £20,000 per head, with the frequency for the whole sample at 8.7%. Very few agents came out at the bottom of the rung with a value added per head figure of £1000 or under. Of the ten agents (or 2.2%) who had labour productivity ratios as low as these 4 were independents and the remaining five were combined agents, with no multiples in that range. In fact only 8.3% of multiples observed in the sample recorded productivity per head figures of under £5000 per head, while the same percentages for independents and combined agents was higher (10.8% and 17% respectively). The bulk of the sample (44.3%) recorded labour productivity figures within the range of £5000 and £8000, with more multiples recording high frequencies than any other group in this range.

7.12.2 The Use of OPTSUR to calculate EPF

The figures obtained for value added was the chosen method of output for the study. Four categories of inputs were calculated and adjusted to reflect unit output or unit value added. These four variables were fed into the Fortran program OPTSUR to construct Efficiency Production Function frontiers to establish the labour productivity of the sample. Several combinations of variables were run on OPTSUR, and an attempt was made to determine which factors contributed to output significantly.

An example of the computational procedure follows. The four inputs used were staff numbers, capital employed, technology usage index and location. The technology usage index was computed by the weighted scoring of the type of technology used by the agent. For instance if only PRESTEL was used a score of 10 was given to that agent, and if PRESTEL, Tour Operator systems and Travicom were in use the score went down to 5, and so on. The more the usage of a system the lower the score was on the technology usage index. This was done as the machanism of the Efficiency Production Frontier works on the principle that the most efficient company is the one that used the least value of inputs. Location was chosen as it was considered by the sample equivocally to be the most important success factor in their functioning. Again what was considered to be a good location was given a lower score or value than a less desirable location, so as to allow OPTSUR to take the lower numerical value as an indication of higher productivity. This was to test if technology and location were really significant contributors to output.

The four groups of inputs were run on OPTSUR, but unfortunately results were only obtained in the First, Second and Third dimensions. The program was not able to compute the Efficiency Production Frontier or E.P.F. in the fourth dimension, inspite of several changes and lengthy testing by the originator of the program (Slater, 1971). The groups of inputs are listed below and detail the three variables that are subjected to OPTSUR computation and producing the related four tables that follow.

OPTSUR RESULTS IN THREE DIMENSIONS : Input factors

Table 1   Staff Numbers, Capital employed, Technology
Table 2   Staff numbers, Capital employed, Location
Table 3   Staff numbers, Technology, Location
Table 4   Capital employed, Technology, Location

An E.P.F of 100% means that that case or agency produced the most unit output with the least amount of input used. The other figures reveal the variance of the EPF from 100%, and individual figures have been grouped into 6 ranges to enable easy comparisons. OPTSUR gives a single percentage EPF for every case of data in the sample. The data is unwieldy for such a large sample and results had to be grouped to enable scrutiny.

Several groups of variables were analysed using OPTSUR. To enable comparisons, the values for staff numbers and capital employed was included and held constant, while a third input variable was introduced each time to determine any variance in the E.P.F. Since OPTSUR was only able to compute the production function in three dimensions, three sets of input variables were examined each time. The input factors that caused a change in the proportion of companies attaining perfect efficiency is presented in Table 7.38. Firstly the procedure and results for a 4*3 OPTSUR analysis is discussed and presented.

In the first calculation staff numbers, capital employed and technology used were the resources input to produce unit output. Of the 1.6% of most efficient firms (i.e. E.P.F. value = 100 %) the majority were multiples. Only 1 or 0.3% of the independent group of agents used the three resources

the most efficiently to produce unit output. The majority of
the sample (87%) had an E.P.F. value of between 1 and 39 %,
indicating overall low yield from the studied inputs of
labour, capital and technology. One in six multiples (or
15.4 %) had an E.P.F. value between 60 and 100% as opposed
to only 1.7% of independents and 2.8% of combined agents.
It was seen that multiples had installed (Table 7.33) and
used the travel technology systems to a higher level than
the other two groups. Also, capital employed by multiples
(Table 7.43) was in the lowest two categories (under £50 k)
for nearly half the multiples surveyed. Multiples, having
been established longer than independents and combined
agents had probably already invested the bulk of necessary
capital in their businesses.

Table 7.50.1 OPTSUR RESULTS IN THREE DIMENSIONS : TABLE 1
Staff numbers, Capital employed, Technology.

E.P.F. %	Multiples No.	%	Independents No.	%	Combined No.	%	Total No.	%
100	7	7.7	1	0.3	–	–	8	1.6
60-79	7	7.7	4	1.4	3	2.8	14	2.8
40-59	14	15.4	21	7.1	6	5.6	41	8.3
20-39	30	33.0	34	11.5	65	60.2	129	26.0
1-19	33	36.3	235	79.7	34	31.4	302	61.0
	91	100.0	295	100.0	108	100.0	494	100.0

When location was introduced as a productivity variable into the production function, only two or 0.4% of the sample acheived 100% efficiency. 79% of the sample had an E.P.F. value between 1 and 39% indicating a weak yield of output from these three variables.

Table 7.50.2 OPTSUR RESULTS IN THREE DIMENSIONS : TABLE 2
Staff numbers, Capital employed, Location.

E.P.F. %	Multiples		Independents		Combined		Total	
	No.	%	No.	%	No.	%	No.	%
100	1	1.1	1	0.3	-	-	2	0.4
80-99	1	1.1	2	0.7	-	-	3	0.6
60-79	9	9.9	2	0.7	5	.4.6	16	3.2
40-59	11	12.1	29	9.8	42	38.9	82	16.6
20-39	29	31.9	121	41.0	23	21.3	173	35.0
1-19	40	43.9	140	47.5	38	35.2	218	44.1
	91	100.0	295	100.0	108	100.0	494	100.0

With the re-introduction of technology installed as a variable into the E.P.F. function 2% of the sample recorded 100% efficiency. The bulk of the sample's efficiency was between 20 to 59% with 76.4% in this range. Thus the mere installation of the systems themselves appears to have an effect on output. The table below illustrates the increase in E.P.F. values when the levels of system applications are considered.

Table 7.50.3   OPTSUR RESULTS IN THREE DIMENSIONS : TABLE 3
Staff numbers, Technology, Location.

E.P.F. %	Multiples		Independents		Combined		Total	
	No.	%	No.	%	No.	%	No.	%
100	8	8.8	2	0.7	–	–	10	2.0
80-99	2	2.2	2	0.7	–	–	4	0.8
60-79	14	15.4	–	–	13	12.0	27	5.5
40-59	32	35.2	124	42.0	35	32.4	191	38.7
20-39	26	28.6	113	38.3	47	43.5	186	37.7
1-19	9	9.9	54	18.3	13	12.0	76	15.4
	91	100.0	295	100.0	108	100.0	494	100.0

The fourth table in the example illustrated considered the input elements of capital, technology and location. Here 1.6% of the total sample attained 100% efficiency in the use of the inputs. There was a higher number of companies in the 80-99% group (3.8%) as compared to the lower values in the preceeding three tables (2.8%, 0.6% and 0.8%) indicating that these three variables in the right combinations was capable of influencing output.

Table 7.50.4   OPTSUR RESULTS IN THREE DIMENSIONS : TABLE 4
               Capital employed, Technology, Location.

E.P.F. %	Multiples No.	%	Independents No.	%	Combined No.	%	Total No.	%
100	7	7.7	1	0.3	–	–	8	1.6
80-99	10	11.0	9	3.1	–	–	19	3.8
60-79	3	3.3	14	4.7	6	5.6	23	4.7
40-59	22	24.2	19	6.4	36	33.3	77	15.6
20-39	29	31.9	173	58.6	40	37.0	242	49.0
1-19	20	22.0	79	26.8	26	24.1	125	25.3
	91	100.0	295	100.0	108	100.0	494	100.0

7.12.3 Discussion of OPTSUR Results

Of the several tabulations that were attempted, Table 7.51 is a summary of the input factors that effected the proportion of the most effective companies (i.e. where the calculated E.P.F. = 100%) in the sample. While the extent of the influence cannot be accurately determined by the E.P.F., the fact that there is an effect at all is significant for this study. For each combination of inputs, staff numbers and capital employed were kept constant. This added the labour productivity dimension to the function and also weighted value added by capital employed. Variance was thus easily observed in the new third factor introduced when OPTSUR was run.

Table 7.51   GRID OF LABOUR PRODUCTIVITY DETERMINANTS FROM
              OPTSUR RESULTS IN THREE DIMENSIONS

INPUT VARIABLE	% age of companies with E.P.F.= 100%			
	Mult.	Inds.	Comb.	All
A. PHYSICAL FACTORS				
Type of company	8.3	0.8	3.0	2.7
Location	1.1	0.3	-	0.4
Age	13.2	10.5	8.3	10.5
Competitors	3.3	1.7	5.4	2.8
Product mix	1.1	0.7	-	0.6
B. LABOUR RELATED FACTORS				
Sales commission	3.3	7.7	3.0	5.9
Profit Share	-	3.7	14.8	5.5
Ratio of supervision	6.6	6.4	-	5.1
Staff age	3.3	1.4	3.7	2.2
Staff experience	1.1	-	-	0.2
Staff education	1.1	0.7	-	0.6
Staff training	23.1	5.1	12.0	9.9
C. TECHNOLOGY RELATED FACTORS				
Agent to VDU Ratio	1.1	8.8	17.6	9.3
Systems used	7.7	0.3	-	1.6
Systems Applications	16.5	9.8	15.7	12.3
D. CAPITAL RELATED FACTORS				
Staff costs	4.4	9.9	11.1	9.1
E. MARKET RELATED FACTORS				
Principal's support	3.3	0.7	2.8	1.6
Focus of business	1.1	-	-	0.2

Of the physical group of factors the age of the company yielded an influence on output. The multiple group had the highest number in the 100% efficient category. Location, contrary to expectation, did not seem to combine with the other elements to produce significantly high output. Only 2 travel agencies acheived 100% efficiency when the E.P.F. frontier was constructed with location, capital and staff numbers as inputs. The existence of competitors and variation in the product mix only marginally influenced unit output.

Amongst the labour related factors the existence of staff training (which included a weighting as to who undertook the training) moved 9.9% of the sample into the 100% efficient category. Nearly one in five multiples acheived the optimal E.P.F. value, followed by 12% of combined agents. Thus, the existence of training and the originator of the training programs exerts an influence on output. Staff age, experience and education did not have a conclusive effect on the efficiency figures. Incentive schemes like sales commission and profit share marginally influenced labour productivity, benefitting the independent and combined agencies. The ratio of supervision had 5.1% of the total sample as being 100% efficient, proving that the managerial staff ratio did exert an influence on output.

The agent to VDU ratio was singled out in the Air Research studies as being a significant contributor to labour productivity. The results from the sample survey echo a similar trend. The highest efficiency was acheived by the combined agents group who also had the highest proportion of

optimal Agent to VDU ratio (Table 7.32). The systems usage levels had 1.6% of the sample as 100% efficient. As soon as the applications of the systems were introduced into the input variables this shot up to 12.3%. This probably indicates that while the installation and marginal use of the technology boosts labour productivity, its real effect is only realised when it is exploited to the full. Thus multiple agents and combined agents who most used the applications offered to them via the computer systems acheived the highest efficiency percentages.

Relating output to staff costs revealed that combined agents had the most yield of output from staff payroll. The support received from principals and the focus of business of the agency only marginally boosted the E.P.F.

The analyses outlined in this chapter have helped in the drawing up of conclusions and inferences, and yielded a wealth of information on the travel agent and his nature and operation. The main conclusions and recommendation of the research study are the topic of the next and final chapter.

CHAPTER 8   CONCLUSIONS AND RECOMMENDATIONS

8.1 Limitations of EPF Computation using OPTSUR

An objective of this study was to establish Efficiency
Production Frontiers for different sets of inputs using unit
value added as an output measure. After literature searches
on productivity, Farrell's Efficiency Production Function or
EPF Method of calculating productivity appealed (because of
reasons outlined Chapter 2) and it was decided that it be
put into practice for the travel agency sector. Earlier
attempts at using the approach had failed due to
computational problems.

However, at the outset of this research a program OPTSUR was
uncovered which was written specially to overcome the
complex calculation involved in establishing the EPF
isoquants. It was written in FORTRAN IV originally by Lucy
Slater of the University of Cambridge, and it was upgraded
to FORTRAN 77 at the University of Surrey. The program had
computed EPF frontiers for a test case of data included with
the program listing, which gave solutions upto the third
dimension but none in the fourth. However several subsequent
attempts to run the program using the data from the survey
proved unsuccessful. It was converted several times and
improved slightly but proved a failure as far as enabling
the use of the EPF isoquants as a productivity tool for
inter-company and sector comparison. The enhancements to the
program were done by myself, in collaboration with Lucy
Slater. The final version of the program produces one
solution in the third dimension. The variables were
'juggled' in order to produce four sets of solutions in the

third dimension. Since this was arduous and impractical the use of the EPF in this study has been kept to a minimum.

The main limitations of the program were :-

1) The inability to cope with a large data set like the one in the present study involving 494 data cases.

2) Only limited solutions were obtained for the data set, with no solutions at all in the fourth dimension. Much juggling was required even for the results in the third dimension.

3) The output from OPTSUR proved to be non-graphic and unwieldy for 494 cases of data and conclusive isoquants for comparison could not be constructed.

4) Further the EPF concept is more suited to the measurement of quantitative data, and most of the productivity variables on which information was collected was either subjective or attitudinal.

Despite the limitations of the package described above the thesis has managed to focus and obtain data on the original aims it had set out to investigate. The main areas of research and inference are summarised briefly below :

1) Original data on travel agency nature, behaviour, opinions and future has been collected and analysed.

2) Labour productivity of a sample of agents has been quantified using the chosen measure of value added per head.

3) An indication of the causal factors of productivity in a travel agency were identified using OPTSUR, however no indication of the extent of this influence was obtainable.

While OPTSUR could not be resurrected for full use in this study, it is recommended that its computation be pursued. It would probably prove most fruitful where the data cases are fewer and the inputs or causal factors of productivity are

more quantifiable. Its appeal as was outlined in Chapter 2 is reiterated here. No prior assumptions are made about the input variables, and the data in a sense decides by trial and error what the most efficient company was in terms of input employed to produce unit output.

8.2   Travel Agency Nature

A total of 494 agents were surveyed, sampling multiple, independent and combined agents. The information culled from their opinions, financial data, product information, basic nature etc. has resulted in much original data on the anatomy of a travel agency. These main observations are now summarised, inferences drawn from them, and recommendations and the course of future investigations are suggested where relevant. The sub-topics under this section relate to the findings in the sectional hypotheses drawn up in Chapter 5 and analysed with empirical data in Chapter 7. Where relevant conclusions and inferences drawn from the follow-up studies undertaken collaboratively with Air Research Ltd. will be presented to supplement or shed new light on the hypotheses of interest.

8.2.1   Company Profile

Agents in the sample predominantly sold leisure travel. Within this the degree of specialising in groups and tour operation was very limited. Of the 10% of the sample who sold business travel as a prime focus of business, again incentive and conference travel did not seem to feature in their range of products. The agents observed just seemed to

be doing the ´standard thing´ of filling the general public´s needs for a one stop travel shop. There did not seemed to be any degree of diversification, specialisation or creativity in selling revealed by either the main sample or the Air Research sample. This conclusion can be drawn by the uniformity of results across the three groups of travel agents in their product mix, where a variance had been expected. These are discussed later in the chapter.

Agency location, which was considered as the most important factor contributing to an agent´s success is thought to have been over emphasised by the sample. While location is stated in retailing literature as a prime causal factor of success, the issue of agency access must be addressed. This refers not only to physical location, but also to incoming and outgoing communication and the visibility of the agency. Quite often location is a variable that the agency will not be able to change easily. Therefore rather than ´sit-back´ and put down falling productivity levels to poor location access issues can be focused upon. This would include establishing good telephone links both for the benefit of clients incoming calls and for outgoing calls to principals and clients. Staff would receive regular training on telephone selling and manner. Also the use of queuing facilities for optimal call handling, answering machines, routing calls via a switchboard, and having specialised staff/counters would all ´cut down´ the time clients use to access the agent.

The use of fax requests (especially for business travel) is recommended. The Air Research study found that on average

clients book their travel itineraries 14 days in advance of the day of travel. In such cases the use of faxed requests would prove invaluable. Besides the obvious advantages of having a ´hard copy´ of clients requests thus avoiding misrepresentation and mistakes possible with telephone arrangements, travel agents could have a dedicated section/member of staff to process these requests. The processing could be uninterrupted and feedback on bookings or general information could be prompt. Staff could also prioritise work and keep profitable clients happy.

8.2.2 Market Profile

Agents could also improve access by having a high visibility in their locale. The study proved conclusively that travel agents depend predominantly on local clientele (70% of all agents interviewed had 61 to 100% of business emanating from local clientele) and rapport with this target community must be built up. Creative incentives and promotions with a local flavour, keeping client records and mail shotting previous travellers who might be potential business in the future, interesting and varied window displays and local advertising might help increase agency visibility in the related populus, and help tap the local business potential.

Another crucial aspect of improving access would be to have well established links (both human and systems links) with the travel principals that the agent represents. This would include subscription to principals´ reservation systems and regular liaison with sales reps. A thorough exploitation of the systems must be aimed for, and this was found to be

lacking in the sample as a whole. Agents must actively train and retrain staff in aspects of technology and keep abreast of enhancements to the systems they use.

Another important aspect of agency business revealed by the survey was that agents depend heavily on repeat business. Multiples had the highest proportion of repeat business clientele, and are probably able to establish and keep links with existing clientele because of economies of scale and global promotion. Also while the establishment of a loyal and regular repeat business customer base is essential, travel agents could actively 'seek out' new avenues of business and market to increase the 'new clientele' (as opposed to repeat business) proportion of their market.

8.2.3 Product Profile

There was very little variance across the sample as regards the product mix that they sold. Not surprisingly, taking into the fact that the sample focused on leisure travel, the retailing of inclusive tours or ITs formed the largest part of agency turnover in all three groups. Other products in the mix that formed a substantive part of turnover were chartered and scheduled air services, and for the combined agents group - organising ITs. However, the share of services like car and coach hire, hotel booking, shipping and cruises were extremely low (90% of the sample recorded low turnover shares from car hire, coach hire, hotel bookings, shipping and cruises) and this was substantiated by Air Research findings.

This follow-up study revealed that agents do NOT actively

sell products other than the standard. For instance only 3% of the observed transactions in the time and motion studies had a car booking, considered to be too low to reflect natural demand. The main reasons for the agent's low participation in selling ancillary services were that these services were high cost, more time consuming, had billing and commission related problems with the principals, and most importantly because there was no suggestive action on the part of the agent to sell these services. This leads on to the crucial question that was thrown up by the research - Were agents to use their advisory stance to promote selected principals and so increase profitability and volume for themselves, at the cost of their clientele losing their unbiased advice ? This point is debated in the next sub section, and issues of survival and technological bias are weighed against agency impartiality.

As far as the profitability of individual services went, the contention that multiples made a higher profit on services was proven, but only just. The margin of difference was very small and no definitive conclusions can be drawn on the profitability of individual services. Insurance was the most profitable product with 75% of the sample overall recording 'high' profits from it. However, here again, inspite of identifying insurance as a service with high profit margins, agents in the follow up Time and Motion Studies made very minimal attempts to promote the selling of insurance. The main survey too reported that 70% of agents in the sample had 0 to 20% of turnover share from the sales of insurance.

The combined agents recorded high profits from the

organising of ITs , and this is possibly an avenue for agency diversification. The other profitable products as gleaned from the literature survey (i.e. besides organising ITs and insurance) were cruises, having in-plant agency branches (only 0.4% of the sample were located in-store), inbound travel, business and conference groups, special interest travel, the luxury market and incentive travel. The survey revealed insufficient participation of agents in selling these ´bigger and better´ services. It is recommended that agents look into diversification into these products to tap, or even incept new markets. The increased profit margins available from override commissions are discussed next under Agency Influence.

8.2.4 Agency Capacity to Influence

A crucial part of the research study was to clearly define the role played by the agent in the marketing of tourism. Traditionally the travel agent has been oriented to providing solely a booking service, and there was a need to verify if agent´s roles had changed to a more consultative one. Agents in the sample were asked to classify which products they felt they were asked the most advice on. These would establish whether customers were in the habit of consulting agents or just using them as a one stop booking convenience. It was also of interest to find out if the travel agent was the customer´s agents or the principal´s agent. In other words, since the travel agent serves both his clients and the principals he represents, to what extent is he loyal to one or the other.

Multiples in the sample never indicated 'nil advice asked' for any of the services they were queried on, as compared to a very small number of the other two groups asserting that advice was never sought. Overall less than 3% of the sample indicated that advice was never sought on services except for international air bookings (where 6.7% of the sample indicated no advice was asked). 'High advice' (75% or over indicated that advice was sought OFTEN) products were Insurance, Hotel reservations and European and domestic Air travel. All the other products queried were medium advice products with most of the sample indicating that advice was sought sometimes. The Air Research results echoed a similar trend. Here the observers in the Time and Motion Studies were asked to classify the main role of the agent per transaction recorded. Airline bookings had the highest consultancy rate (64% of airline transactions recorded asked the agent for advice), followed by Hotels and Car Rental services (57% and 43%). These two sets of results prove quite conclusively that travel agents are being actively sought out by clients for advice on products, and the traditional image of an agent just being an 'order-taker' might be a thing of the past.

While agents advice is sought often, most agents in the pre-testing and personal interviews felt their biggest asset was their unbiased advice. This brings us to the discussion of 'whose' agent the travel retailer is (i.e. the customer's or the principal's). Air Research results pointed out that agents were unwilling to actively 'sell' a particular product to a client for fear of undermining the customer-

agent relationship. On the other hand, agents in the main sample agreed unanimously to the assertion that travel agents bias sales towards the systems they were familiar with (94% agreed) and that preferential selling must be undertaken to obtain override commissions (70% agreed). It is this paradox of having to maintain the balance between the needs of their clients for unbiased advice and the issues of profitability, rapport with principals and even their own survival in a competitive market.

Having established that agents do play a consultative role the next area of interest was their 'influencability'. In other words the propensity the agent possesses to use his consultancy or advisory powers to motivate the client's decision towards choosing a particular principal's product. Over 90% of the sampled agents felt they could influence customer choice often or atleast sometimes for all the products queried. The most influencable products were International Air travel, Insurance and cruises and shipping.

This high influencing capacity was substantiated further in the Time and Motion Studies. However these results indicated that while agents possessed the potential to influence very few actually did. For instance of the 804 airline transactions recorded there was an effort made by agents to sell a particular principal's product only 3% of the time. Any kind of overt selling was absent, and this is probably why the travel agency sector has been likened to a 'a big lazy elephant' by travel writers. However a possible explanation of this inertia to sell could be explained by the discussion that follows, where it is the decision of

managerial staff to decide which principals are to be favoured, and not in the power of counter staff.

In an editorial of the Travel Agency magazine (Travel Agency, Feb 1986) results of a market research study on ´who decides what travel products to sell´ were summarised. The survey which interviewed 100 agency managers´ indicated conclusively that it was not "the counter staff holding principals´ fortunes in the palms of their hands." In actual fact it was managers and head office directors (95% of the surveyed agencies reflected this trend) of the travel agencies who made the decision on what products were racked, distributed and sold. Once decisions were made by the ´higher-ups´ counter staff were expected to toe the line and resist any promotional advances from less favoured principals. So while the main survey and the follow-up studies proved that clients do actively seek advice, and that agents are able to influence them, patterns of choosing principals and practising the preferential selling of their products is a managerial decision imposed on sales staff. In conclusion it is the managers therefore who have to address the paradox between practising preferential selling and maintaining unbiased selling to customers. There have been suggestions of the emergence of two types of travel agents in the future based on their influencability. One group would be promoting themselves on their comprehensive and impartial nature, while the other group would be selling products of favoured principals. A very important point emerging in the agent´s influencability is however the invisible bias in agency selling because of the

use of reservation systems.

An investigation was made into the extent to which agents are provided support from the principals they represent. It emerged that airlines, tour operators and shipping companies provided good support on average, while hotels, railways, car and coach hire companies had support levels averaging from medium to poor. The message for principals ofcourse is to woo and court the travel agent more effectively. As their most important distribution point they must provide them with good technological support, training, regular liaison from marketing departments, incentives and product information if their own productivity is to be assured.

8.2.5 Staff Profile

The general mix of staff indicated that males were favoured for managerial positions while females were favoured for counter staff positions. The ratio of supervision amongst the sampled agents was very high, averaging one supervisor or manager per every three staff. The ratio was five staff to one manager in the Air Research sample. The variance in the ratios can probably be explained by the focuses of business of the two samples - leisure in the case of the main survey and business in the case of the time and motion study. The ratio of supervision may therefore be higher for leisure agents than for business house agents.

Another factor that might have affected the variance in the ratio of supervision was the difference in experience levels of staff in the two samples. Three fourths of the Air Research counter staff had travel industry experience of

6 years or more in comparison with 26.3% of main survey staff with this level of experience. Managerial staff in the main survey however had a very high percentage of experienced managers (82.6% were in the 6+ years range). The CRS experience of staff was also extremely high for the Air Research sample (87% of staff had between 6 to 20 years of CRS experience) and is probably again a reflection of the focus of these agents on selling business travel.

Educational qualifications did not feature importantly in the staff profile of the main survey. Almost one in ten managers and one in twelve staff had none of the educational qualifications cited or mentioned an alternate 'other'. A fairly high percentage of both groups (62.8% and 69.2%) had educational qualifications upto O/A-level/GCSE. Only 9% of the overall sample were degree/HND holders and only 1% of the whole sample possessed any post graduate qualifications. Other industry qualifications were however pursued by about 12% of the sample including ABTA and IATA courses and COTAC certificates.

The stress on educational qualifications was thought to be low, as the sample seemed to indicate that entrants to the travel industry were relatively young, so sacrificing or limiting academic exposure. An analysis of staff age patterns revealed that nearly two in three or 60% of travel sales staff were between 16 and 25 years old. A third were between 26 and 45 years, and only 6% of all counter staff in the sample were over 46 years of age. Managers ages varied, with there being more older managers (55% between 26 to 45 years, 31% were 46+ years) than those ranging between 16 and 25 years.

The main survey sample with its focus on leisure travel had a more 'youthful' travel sales staff make-up than the business oriented Air Research sample. The latter had the bulk of staff in the middle group of 26 to 45 years (58% in this range as compared with 39% in the main sample). This is probably again a reflection of the differences in business focus of the two samples. The Air Research sample were dealing with business clientele on the whole considered to be more demanding , where a certain degree of staff specialisation and expertise is assumed. The average staff in the business house agency was expected to be fairly experienced and well versed in systems and account handling. While age cannot always be considered synonymously with experience, it is possibly the reason which explains the variance in the samples under scrutiny here.

Specialisation of staff was more prevalent in the Business house sample investigated by the Air Research survey. Again the leisure agents, dealing with a less demanding market were more prone to having 'jack-of-all-trades' type staff than devoting time to staff specialisation. Only 10% of the main sample indicated any degree of specialisation as opposed to 35% of Air Research travel agencies.

Staff training was another topic on which the research yielded interesting data. While only a fifth of the main sample held a formal staff training scheme 65% of them trained staff in the use of computer systems. Computer training was held by various organisations, including in-house training or training undertaken by the travel agency itself on its premises. The top 'trainer' for the Air

Research sample was British Airways/TRAVICOM, while in-house training and training from tour operators dominated the main survey. This variance is easily explained by the differences in systems usage by the two sample. The Air Research sample dealt with business houses and had airline ticket sales as its mainstay, in contrast to the main survey agents who concentrated on leisure travel sales. The former therefore got training in Airline CRS and business house related expert systems from the related airlines and CRSs. The latter required the use of viewdata systems for their main product sales, and training on these are best imparted by the owning tour operators, PRESTEL, or by senior or more experienced staff internally. Air Research data gave further information on the various areas of in-house training. Agents in the sample concentrated mainly on imparting staff with industry information and skills in the use of automation in their in house training. Relatively few of the main survey agents held any staff incentive schemes, totalling only 28%.

Staff to VDU ratios were better in the Air Research sample with an average of 1.1 agents to one VDU as opposed to 4 agents to one VDU in the main sample. Again the business travel bias of the Air Research sample is very dependent on the use of CRS because of the product mix sold, and this might well be the cause of the higher agent : VDU ratio.

8.3 Systems Profile

The survey addressed various aspects of travel agency use of computerised systems and viewdata technology. Firstly a

picture of the penetration of systems within the travel agency sector was sought, and then various other aspects of systems were investigated to establish the sample's 'system profile'. In other words the degree to which agents had installed the various systems was the first concern, followed by why the systems were introduced, the main applications used, the type of changes experienced from their use, the resultant advantages and disadvantages of using the systems, and finally various attitudes towards technology and travel agency functioning in the future (the last point is covered in the Attitudinal profile in 8.5).

Viewdata systems operated by PRESTEL and tour operators were the most used systems in the main sample, with 51% and 61% recording high usage levels of these videotex systems. Nearly one in four of the overall sample however recorded low or nil usage levels of the Prestel set they possessed. All the agents interviewed had one or a few of the systems in their premises. One in four or 25% of the sample used Travicom (Skytrack or Executive). Travicom was the top CRS in use and very few of the sample had the use of non-Travicom CRS like Sabre, Apollo or Pars (6.3%). Nearly 80% of the sample had no DPAS or Accounting system, and 77.7% had no access to ABC Electronic.

The survey results on system penetration showed that front office technology, especially holiday booking had penetrated travel agents most significantly across all three groups. The accent on viewdata systems as opposed to expert systems or CRS are probably because videotex systems are more 'user friendly', easier to get familiarised with, and furnish the agent with the means to book ITs which are the mainstay of

agency business volume. CRSs were crucial to the Air Research sample as their mainstay was income from airline sales.

Since viewdata has been accepted and has penetrated into the travel agency fold quite widely it is recommended that other principals like airlines also adopt reservation systems via videotex. British Airways are in the stage of developing a front-end menu-driven facet to their reservation systems called EASY BABS (BABS stands for British Airways Business System). This enables agents to access a user friendly screen with prompts and ready made data entry fields to facilitate the easy booking of flights. The front ended system interracts with BABS, processes the entry in the traditional way (by creating a PNR) and translates the booking details in a less complicated way to the agent. The system is in use by a few agents who have viewdata sets, and at present is capable of handling only one and two segment journeys within Europe and the UK only.

The advantage of such a system from the travel agent´s point of view is that he already owns the equipment (i.e. viewdata system) and is well versed in booking other principals´ products (mainly ITs) via this mode. From the principal´s viewpoint they do not have to market their CRS system or provide user training as the viewdata system is already in use and familiar to the agent. It is recommended that more airlines and other principals follow suit in establishing front-ended user-friendly access to their CRSs. The use of Back office systems was very minimal to establish any conclusion on market penetration.

Interestingly the dominant reason for introducing booking systems in the agency was because it was seen as a 'necessity'. One agent wrote on the survey form that computer systems were a 'necessary evil' ! The second most cited reason for subscribing to the systems was to keep up with principals who had done so. These responses may have considerable overlap as the reasons for agents being obliged to automate ('Was a necessity') could have stemmed from any of the reasons below :-

- Principals automate & only allow bookings via systems.

- Increased volume demands more efficient booking and information retrieval syatems.

- Increased competition, and competitors using the systems.

- Demands of clients prompt introduction of systems.

- Inevitable because of general society and industry trend towards automated systems.

Whatever the individual reason or combination of reasons for an agent to deem automation a 'necessity', it points to the inevitable linking of computer reservation systems and travel agency functioning in the future.

Appendices E and F contain product information 'collected from viewdata and CRS companies and detail the kind of services and products agents can avail of once they subscribe to the system. From this product information, meetings with personnel in the CRS and viewdata field, and literature surveyed a list of 22 applications were drawn up that were available to agents who had installed the systems. The survey analysis on systems penetration summarised above concluded that the sample focused on front

office technology related to holiday bookings rather than on Airline CRS, or Back office technology like Accounting and Management Information Systems. The main applications of the technology echoed a similar trend with viewdata applications scoring higher average usage levels. However, even among these applications usage did not seem very high from the sample observed, with only two applications Holiday Reservation and Late Availability high usage levels. Of the 22 applications on which usage levels were sought, 50% had a very minimal or nil use of that application in the sample as a whole. The 'top five' applications as revealed by the survey were Holidays reservation, Late availability, Airline reservation, Holidays information and Airline information. The usage of the systems for POS displays, EFT, Production of Statistics, client credit records and itinerary printing were the five least used applications across the sample as a whole.

The contention that travel agents do not fully exploit the systems they use is substantiated by the research findings. While viewdata applications were used to a certain extent, the 26.3% of agents who did have Travicom did not respond positively to the many applications offered to them through the CRS.

The possibility that agents might still be going through the technology 'learning curve' seems applicable to Airline CRS, but not to PRESTEL and viewdata systems. On average 55.7% of the sample had introduced PRESTEL before 1984, and 43.3% had had the tour operator systems for atleast 5 years at the time of this survey (Table 7.34). Similarly, 43.3% of the

sample as a whole introduced TRAVICOM before 1984. However while levels of usage of the viewdata systems was proportionally high as compared to the number of years they had the systems, the same for TRAVICOM fell short. So, 50.6% of the sample used PRESTEL ´often´, 61.1% used the tour operator systems ´often´, and only 21.9% of the sample recorded very frequent use of TRAVICOM. Thus agents take to the viewdata systems more easily than CRS or expert systems like TRAVICOM. This gives further credence to the suggestion above that airlines must develop front-ended user-friendly access to their CRS systems, to ensure travel agency participation.

This was investigated further in the Time and Motion Studies where the sample under study consisted of travel agents who had Travicom CRS installed for their use. For instance while Travicom offers the facility for a car booking to be made on-line, 87% of all car hire arrangements were made by telephone. The telephone was used for outbound calls to principals and of the transactions recorded one in four involved an average of 2.9 outbound calls. The majority of these were to principals (the others were to customers) with queries about availability, bookings fare rules and fares. The reason for making the calls was not due to CRS downtime in the period of the observations.

While the penetration of systems and the level of usage of certain applications have been proved to be low for the sample, opinions on the changes that were effected from their introduction were unanimously positive. Fourteen items were presented to the sample, and they were asked to decide whether the use of systems had increased, decreased or

remained the same in the observed factors. On average there was found to be a minimal or no effect on staff numbers, managerial control, paperwork and documentation, overall costs and variety of services. The range of information was thought to have increased from the use of the systems by the majority of the sample. There were other factors where increases were noted by the respondents and these included speed of selling, quality of service, accuracy of information, customer satisfaction, staff productivity, company prestige and volume of services sold. The results noted were quite uniform across the three groups as regards their changes in certain working practices from the use of computer systems.

Agents were also queried on the advantages and disadvantages that were perceived by them as a result of introducing computer systems. Overall results indicated that the ease of reservations, greater accuracy of information, the speed of information retrieval, better image and the fact that clients were impressed were the main advantages perceived by the agents from the technology.

Surveyed agents experienced disadvantages from automation due to technical reasons, as well as from their attitudes to the systems as a whole. The main technical disadvantages were the unreliability of the systems, non-standardised entry and output formats and the presence of a bias in the information provided. Agents also felt that there was an over-reliance on the systems, and consequently staff were not equipped to cope with transactions in the event of the systems failing. The loss of a personal touch from using the

systems was experienced in both the agent/customer and the agent/principal relationship. This need not necessarily be the case, as the Thomson Holidays´ training course emphasises. It states that it is easy to slip into a position where the computer terminal blocks off the agent from the client. This can be avoided if the agent has a mastery over the systems, so closing the sale in the minimum possible time, enabling the ´sales patter´ to continue around the equipment and thus maintaining the sales rapport. Customers can also be encouraged to participate in systems use by installing menu driven self-help VDU sets. Less than 10% of the observed sample had Point Of Sale displays (POS) introduced for client perusal.

8.4 Productivity Figures

Nearly half the sample had a turnover figure of under £1 million consisting mainly of independents (73%). One independent had written on the survey form next to the financial figures section "we know our profit margins and turnover are dire. We continue to run the business just for the love of it" ! Multiples had a higher turnover range with the bulk of them between £1 and £3 million. Approximately one in three agents in the sample as a whole recorded profit figures of under £5000 per annum. The majority paid out staff costs of between £18000 and £54000 per annum. It is possible to estimate from this figure that on average there are 2 to 6 staff working in a travel agency (assuming staff costs of £9000 per head per annum). The value added per head figures for the sample as a whole ranged between £5000 to

^[9000 per annum, considered to be quite low in comparison with value added and output figures for other industries and sectors.

8.5 Attitudinal Profile

A series of fourteen statements were included in the survey, and the responses of these assessed attitudes of agents to their role, their future and the use of systems. The most agreed with statement was the one that asserted that agents would promote services whose CRS they were familiar with. Air Research results also proved conclusively the tendency of agents to promote services with familiar booking patterns. They found that the majority of agents observed used the British Airways system (via Travicom) irrespective of which airline they were booking. They noted especially that the multiples in the sample had a disproportionately high use of the BA system. This was found to be motivated by operational (including ´habit´), training and marketing considerations rather than BA´s sales volume via the travel agent. (BA systems were in use 73% of the time on average by multiples, but BA sales volume was only 39%).

This attitude is of great importance to the nature of the agent, and is one that principals who supply the systems must take note of. While it has been discussed that preferential selling of products is decided by senior managerial staff, this usage of familiar CRS introduces an invisible bias into the selling process. Standardising the booking system, providing training support, regular updates on enhancements, comprehensive prompt cards, the use of

efficient help desks as well as liaison could help principals establish their booking system as the one agents are most comfortable with.

Agents also agreed with the statement that a computerised agent was seen as more 'credible' by customers. They contended the assertion that agents without viewdata could perform as well as one with the systems. Agents also agreed on average to employing preferential selling of principal's products to obtain override. This addresses the very nature of travel agents who are traditionally seen as impartial information providers. Principals actively support agents who sell a substantial amount of their services in the form of incentives, override and good liaison and training. This imposes a further pressure on agents to bias their advice towards favoured principals.

Respondents were 'unsure' of answering several of the questions pertaining to their futures. Opinions on whether independents should form consortia, or that agents would perform a more consultative role in the future revealed a lack of perspective on the part of the survey respondents. Other statements with inconclusive results were should principals undertake promotional tasks and would multiples gain more market share in the future because of system access. One in three respondents agreed that their jobs had been reduced to that of a computer operator. This was based on the assertion that with the systems staff could 'at the touch of a button' access information and facts. The dependency and use of the CRS or booking system would be high, with agents constantly on-line. The majority of respondents disagreed with the contention that staff felt

any threat to their jobs from the introduction of automated systems. Responses were also negative to the assertion that staff would need less knowledge because of the ease of the systems at their disposal.

8.6   Productivity Determinants

Agents rated location, reputation, managerial abilities, sales and promotion and staff expertise as the top five factors on average that could make them or break them. There was minimal variance between multiples and independents on productivity determninants, but the combined agent groups' responses were different. They ranked reputation as the prime productivity causal factor, with managerial abilities, location, liaison with principals and familiarity following suit. The reason for this was explained by the element of tour operating that this group of agents incorporate in their business. The need for a retail travel agent to have a good location is of prime importance, but for a tour operator who accesses potential clientele via retailers and other modes (eg: mail, telephone etc) location is not of paramount importance. Combined agents ranked having a good 'Liaison with principals' as the fourth most important success factor. This again can be explained by the element of wholesaling that exists in the combined agents group. Wholesalers of travel or tour operators use retailers for the distribution of their product and the relationship and the liaison or communication that they develop with these intermediaries is a major contributory factor to their success. The fifth success factor as seen by combined agents

was familiarity. Here again since combined agents are selling their own tours as part of their product line, clients familiarity with their agency and their product is more important to them than it is to the other two groups.

For the sample as a whole the use of Computers systems was ranked ninth in the league table of productivity determinants, preceeded by familiarity, range of services and liaison with principals. The factors that were not high on the list of travel agency labour productivity determinants were the speed of service, price, staff training, external factors and competition.

The last point was surprising as survey results point to the travel agency business as one that is highly competitive. Only 7% of the sample were sure they faced no competition in their vicinity, while nearly one in two had 8 or more competitors vying for business. Travel agents might need to recognise and address the threats of competition in a more realistic and constructive way, with increased market research, diversification of products and boost visibility in their markets.

Other productivity improvement factors that were volunteered by agents were maintaining service quality (could be considered as overlapping with reputation), personal contact, professional attitude and consistency of approach with clients (overlapping with staff expertise), the degree of specialisation, incentives and override commissions agent is able to obtain.

The results above were the productivity determinants as perceived by the agents themselves. The OPTSUR calculations

undertaken in Section 7.12, gave a set of isoquants of optimal efficiency, revealing the contribution of various input factors. While the exact extent of influence of the individual factors could not be obtained, a lateral comparison of determinants was facilitated. The fact that there was a variance at all in the EPF for different combinations of input, indicated that these factors varied across the three groups of travel agents, and effected the Efficiency Production function. From the physical group of factors the age of the company (i.e. how long the travel agency had been established) had an effect of increasing the EPF optimal total to 10.5% of the total sample. The type of company, location, product mix and the number of competitors all had an effect on the EPF.

Among labour related factors staff training effected the EPF optimal values strongly by moving over 1 in 5, or 23.1% of multiples into the 'most efficient' category. Other staff variables which caused a change in the EPF across the three groups were staff age, experience, education, staff incentives like sales commission and profit share, and the ratio of supervision. Among technology related factors the agent/VDU ratio pushed 17.6% of combined agents and 8.8% of independents into the optimal EPF threshold. Multiples who had more shared VDUs than the other two groups had 1.1% of agents obtaining 100% efficiency. The systems usage factor had 1.6% of the total sample in the 100% EPF category. However, when systems application levels were introduced as an input variable 12.3% of the sample had the maximum efficiency frontier. This proves conclusively that having the technology is not enough, it is the optimal use of its applications that cause a significant variance in productivity levels. Principals support levels, and the focus of business were the market realted factors that caused a variance in EPF levels across the three groups.

8.7   Future Issues and Areas of Further Research

From both the main survey and the Air Research study an important point revealed was the high advice level sought by clients of travel agents. This provides the agent with the chance to promote selected product ranges of preferred principals who would reciprocate with incentive commission. Agents in the near future will have to address this paradox of remaining impartial to clients, while maintaining acceptable turnover volumes of principals products. It might lead to the development of two types of agency - one who is actively seen to promote services of favoured principals, while the other attracts customers on the basis that he is unbiased.

With the futher advent of automated sales channels there is also the possibility of the travel agency becoming redundant. While this was not seen as an immediate problem in the survey results, travel trade personalities have warned that consumer home access to travel systems is imminent in the next five years or so,with agents losing atleast 10 to 20% of their established market. However evidence points to the contrary, especially since the assimilation of a technique by the public comes gradually with time. It is felt that as long as agents can deliver and maintain a good level of service the alternate reatiling forms will not prove a challenge. But as soon as service levels drop in a travel agency from the client's viewpoint, alternative retailing channels might win precedence. To keep ahead agents will have to address issues of formal staff training schemes, staff incentives based on agency turnover which will help tie staff to company productivity, improve relations with principals and keep a professional standard of service. Increased innovation in selling and marketing techniques, product lines, promotion and agency access is required. Automation is crucial to the agent's

future, and it is vital that agent's adopt and master the intricacies of the reservation systems. The sheer volume and range of services and transactions handled by the increasingly sophisticated reservation systems will be the key to agency productivity in the future.

For principals the development of front-ended user friendly systems to their existing CRSs is recommended to first penetrate the travel agent's front office technology. Once agents are confident of the airline system more expert systems and back office technology could be introduced. Principals have cleverly off-loaded the costs of accessing travel agents onto the retailers themselves, by obliging them to subscribe to their systems. Agents in turn will be looking to principals for good technical support, training and commensurate rewards. It was evident from the Time and Motion studies that principals underestimate the influencing capacity of travel agents. This has been proven to be high from both the samples studied, and principals will have to make an effort to woo agency loyalty and support, in an attempt to keep themselves productive.

Further research topics of interest would be the direction agents will turn - unbiased or towards preferential selling. The individual profitability of services deemed to be in the higher bracket can be identified and related to agency productivity. The impact of sophisticated and new CRSs on agents, as well as the impact of competition and other aspects brought about by 1992 will be of interest. A detailed study of agency sales, product, promotion and staff policy would shed light on these areas. Another interesting future research area is the mechanism of the Sales dynamic between agents and customers, and in turn the dynamic between principals and their retail intermediaries.

LIST OF APPENDICES

BRITISH AIRWAYS

200 Buckingham Palace Road
London SW1W 9TA

March 1986

MARKETING AGREEMENT 1986/7

I attach our marketing agreement offer for the year 1986/7.

You will note that it is quite different from those of previous years and I should like to explain the background to it.

Automated reservations and ticket printer systems are a vital element of the future of the travel industry, both for travel agents and airlines. The growth of such systems will enable both of us to reduce our costs and the time we spend on administration, thus allowing your staff and our staff to devote more time to our customers.

For this reason we have decided to move towards supporting those agents who communicate with us through Travicom, and we expect in 1987/8 to pay extra commission only on the basis of reservations made through automated systems which provide us with cost and service benefits.

As an initial step the 1986/7 agreement will encourage automation by contributing to the service fees of Travicom sets either in place or acquired during the year. We shall also in this interim year 1986/7, be paying extra commission on revenue earned on our longhaul routes.

We believe that this step is very much in the long term interest of both sides of the industry, and we look forward to working with you to strengthen the position of both agents and British Airways by devoting more resources to improving the service we give our customers.

If you would like to benefit from the proposed 1986/7 scheme, I would appreciate it if you could return a signed copy of the attached agreement.

Yours sincerely

Applicable to agents producing £2.5M British Airways Flown Revenue and above in the base year 1985/6 or agents producing £1M British Airways Longhaul Flown Revenue in the base year.

Part I AUTOMATION SUPPORT

1   British Airways will make support payments at the following rates.

Each Travicom Executive VDU	£1250 pa
Each compatible ticket printer	£1000 pa

Payment will be made at the rate of 50% of the above for each IATA season on the basis of sets in situ at 31 October and 31 March respectively.

Payment for each season will be conditional upon the achievement by yourselves of 5% growth in total BA Flown Revenue for the appropriate season.

Part II INCENTIVE COMMISSION

1   Market support payments will be made on total BA longhaul flown revenue (BALHFR) on the basis of growth in such revenue during the seasonal periods 1 April 1986 to 31 October 1986 and 1 November 1986 to 31 March 1987 compared to the same periods in 1985/6.

Longhaul revenue is defined as: to, from or within the Americas and Caribbean, Africa excluding Morocco, Australasia, Asia excluding Turkey and Israel.

2   There will be no 'clawback' of commission paid by British Airways directly to your customers.

3   Your BALHFR in the current and base years will be subject to adjustment in respect of branch acquisition for the first full IATA season after IATA registration.

4   When a nett rate is agreed with you in respect of a specific longhaul group or series, the gross revenue will be included for measurement of your growth rates. This revenue will not however be included when assessing the total payment to be made on the Incentive Commission scheme.

5   Assessment and payment will be made twice during the year on the basis of the summer and winter seasons (1 April - 31 October and 1 November - 31 March) each season standing alone. Target growths and levels of payment are as follows:

Growth (BALHFR)		Commission %
10% but less than 12.5%		1.5
12.5%	15.0%	2.0
15.0%	17.5%	2.5
17.5%	20.0%	3.0
20.0%	25.0%	3.25
25% or more		3.5

Signed for Agent ....

Signed for British Airways ....

UNIVERSITY OF SURREY

Guildford Surrey GU2 5XH   Telephone (0483) 571281   Telex 859331

Department of Management Studies for Tourism and Hotel Industries

TRAVEL AGENCY SURVEY

Please tick boxes (eg. |☑|) to questions, or leave blank if not applicable/not known.
This study is for research purposes only. Thank you in advance for your help.

A. COMPANY PROFILE

	For office use only
	1-3 ( )( )( )

1. Which term best describes your company ?

   Multiple travel agency | |
   Independent travel agency | |
   Tour operator + travel agency | |
   Tour operator | |
   Other_____ | |

2. What is the primary focus of business ?

   Leisure travel | |
   Business travel | |
   Specialist travel | |
   Equal business & leisure | |
   Other_____ | |

4 ( )
5 ( )

3. How many travel outlets have you in the U.K., including this office ?

   [   ]

4. In which year was your agency established ?

   [   ]

6-8 ( )( )( )
9-12 ( )( )( )( )

5. Where is your office located ?

   High/Main street | |
   Town Centre | |
   Other prime site | |
   Out of town | |
   Other_____ | |

6. Which term describes your ownership ?

   Private limited company | |
   Subsidiary of private ltd company | |
   Partnership | |
   Sole propreitorship | |
   Other_____ | |

13 ( )
14 ( )

7. Which of the following services do you offer ?   What is the percentage share of each in overall business turnover?   How do you rate the profitability of each ?

	100-81%	80-61%	60-41%	40-21%	20-1%	NIL 0%		HIGH	MEDIUM	LOW	
Scheduled Air services											15( ) 16( )
Chartered Air services											17( ) 18( )
Rail services											19( ) 20( )
Retailing Inclusive tours											21( ) 22( )
Organising Inclusive tours											23( ) 24( )
Car/ Coach services											25( ) 26( )
Shipping services											27( ) 28( )
Hotel bookings											29( ) 30( )
Insurance											31( ) 32( )
Other_____											33( ) 34( )
											35( ) 36( )

8. Which region is your agency in ?

Scotland	|_|
North	|_|
North West	|_|
North East	|_|
East Midlands	|_|
West Midlands	|_|
South	|_|
South West	|_|
South East	|_|
London	|_|
Wales	|_|
Northern Ireland	|_|
Channel Islands	|_|

9. On what <u>main</u> criteria is company performance measured ?

Nett profits	|_|
Sales turnover	|_|
Return on capital employed	|_|
Value added to business	|_|
Other_____	|_|

10. How many competitors (travel agents) are there in your area ?

[   ]

B. CLIENT/ MARKET PROFILE

1. What is the break-up of your sales ?

Percentage of sales by telephone |__|%
Percentage of sales over counter |__|%

2. What is the break-up of new/repeat customers?

Percentage of new customers |__|%
Percentage of repeat customers |__|%

48-50
|( )( )( )
51-53
|( )( )( )

54-56
|( )( )( )
57-59
|( )( )( )
60-62
|( )( )( )
63-65
|( )( )( )
66-68
|( )( )( )

3. Give break-up of customer origin.

Percentage of local clientele |__|%
Percentage of non-local clientele |__|%

4. How is your business divided ?

Percentage of leisure travel sales |__|%
Percentage of business travel sales |__|%
Other_____ |__|%

5. How often do customers ask advice for the following services ?

How often can you influence customers to change from their original choice ?

	Clients ask advice				Can influence choice		
	Often	Some-times	Never		Often	Some-times	Never
Air travel-Europe & domestic							
Air travel-International							
Hotel reservation							
Inclusive tour-Europe & domestic							
Inclusive tour-long haul							
Cruises, shipping services							
Insurance							

69( ) 70( )
71( ) 72( )
73( ) 74( )
75( ) 76( )
77( ) 78( )
79( ) 80( )
1( ) 2( )

6. How do you rate the services you get from the following principals ?

	Good	Fair	Poor
Airline carriers			
Tour operators			
Hotels			
Car rental companies			
Coach companies			
Railway companies			
Shipping companies			

C. STAFF PROFILE

1. What is the breakdown of staff employed ?

	M	F
Managerial		
Travel sales staff		

2. Please give number of staff in each age group.

	16 - 25	26 - 45	over 46
Managerial			
Travel sales staff			

3. Of total staff, how many are full/part-time?

Number of full-time staff [   ]
Number of part-time staff [   ]

4. Are the following staff incentives offered ?

Commission on sales [   ]
Profit share [   ]

5. What is the average education of staff ?
Please give number in each group.

	CSC/O/ A lvl.	Degree Dipl.	Post Grad	Other
Managerial				
Travel sales				

6. What is the length of staff experience in travel ? Give number in each group.

	Under 2 yrs	2 - 5 yrs	6 -15 yrs	16+ yrs
Managerial				
Travel sales				

7. Do you hold a formal staff training scheme ?

Yes [   ]
No [   ]

8. Are staff formed into specialised counters ?
(eg. Rail, air etc.)

Yes [   ]
No [   ]

D. TECHNOLOGICAL FACTORS

1. Do you use computer/viewdata systems ?

Yes [   ]
No [   ] Go to Qn.4

2. How many terminals are there to staff ?

Number of terminals [   ]
Staff who use them [   ]

3. Why was automation introduced in your agency?

Because my competitors did [   ]
It was a necessity [   ]
Because principals automated [   ]
Other_____ [   ]

4. What is your main reason for not automating?

It is too expensive [   ]
Not needed for our business [   ]
Too small an agency [   ] Go to
Other_____ [   ] Sec.E

5. Which of the following do you use, & when were they installed? What is the average level of usage per day ?

	Yes	No	High	Medium	Low	Year Installed
PRESTEL						
Tour operator's systems						
PRESTEL Gateway/Skytrack						
TRAVICOM Executive/President						
SABRE/Apollo/PARS						
Accounting system/DPAS						
ABC Electronic						
Other_____						

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6. What is the average level of usage of systems for the following applications ? (Leave blank if not applicable.)

	Level of usage				Level of usage			
	High	Medium	Low		High	Medium	Low	
Late availability				Point of sale displays				31( ) 32( )
Holidays information				Coach/car rental				33( ) 34( )
General information				Hotel information/booking				35( ) 36( )
Airline - information				Holidays - reservation				37( ) 38( )
Brochure ordering				Airline - reservation				39( ) 40( )
Ticketing				Accounting				41( ) 42( )
Management reports				Client credit records				43( ) 44( )
Client profiles				Itinerary printing				45( ) 46( )
Electronic Mail				Electronic Funds transfer				47( ) 48( )
Invoicing				Production of statistics				49( ) 50( )
Information storage				Word processing				51( ) 52( )

7. Is there any noticed increase/decrease in the following factors since you automated ?
(Please tick : INCREASE ++, SAME ==, DECREASE --)

	Type of change				Type of change			
	++	==	--		++	==	--	
Range of information				Overall costs				53( ) 54( )
Accuracy of information				Staff numbers				55( ) 56( )
Paperwork/documentation				Company prestige				57( ) 58( )
Job satisfaction				Managerial control				59( ) 60( )
Staff productivity				Volume of services sold				61( ) 62( )
Speed of service				Customer satisfaction				63( ) 64( )
Quality of service				Variety of services sold				65( ) 66( )

8. What are the **main** advantages of using viewdata/computer systems ? (Tick no **more** than five)

Greater accuracy of information ☐
Ease of reservations ☐
Speed of information retrieval ☐
Paperwork reduced ☐
Better image ☐
More managerial control ☐
Greater staff productivity ☐
Competitive advantage ☐
Telephone savings ☐
Client is impressed ☐
Other_____ ☐

9. What are the **main** disadvantages you experience from using automation ? (Tick no **more** than five)

Systems failing ☐
Lack of knowledgeable staff ☐
Variety of systems confusing ☐
Large telephone bills ☐
Gives biased information ☐
Lack of personal contact ☐
Over-reliance on systems ☐
Casual enquiries increased ☐
Poor supplier follow-up/support ☐
More mistakes are made ☐
Other_____ ☐

10. Is there any **formal** staff training in the use of viewdata/ computer systems ?

Yes ☐
No ☐ Go to Section E

11. Who conducts the training? Tick all that apply

We do ☐
Airlines ☐
Tour operators ☐
PRESTEL ☐
TRAVICOM ☐
Other_____ ☐

E. FINANCIAL PROFILE

Please refer to the definitions at the foot of the page.

Please tick the ranges closest to your financial figures for the latest available year end, for
this office only. If financial figures include Accounts of several offices please give number.
This data is important for classification purposes & other information obtained from the survey
will be rendered useless if this data is not available.

Number of offices included in Accounts |_____|

A/c Year ended :   Month |_____| Year |_____|

Total sales turnover		Pre-tax profit + Depreciation	
£300,000 or under	|__|	£2,500 or under	|__|
£300,001 - £600,000	|__|	£2,501 - £5,000	|__|
£600,000 - under £1 million	|__|	£5,001 - £7,500	|__|
£1 million - under £2 million	|__|	£7,501 - £10,000	|__|
£2 million - under £3 million	|__|	£10,001 - £12,500	|__|
£3 million - under £4 million	|__|	£12,501 - £15,000	|__|
£4 million - under £5 million	|__|	£15,001 - £17,500	|__|
£5 million - under £6 million	|__|	£17,501 - £20,000	|__|
£6 million - under £7 million	|__|	£20,001 - £22,500	|__|
£7 million - under £8 million	|__|	£22,501 - £25,000	|__|
£8 million - under £9 million	|__|	£25,001 - £27,500	|__|
£9 million - under £10 million	|__|	£27,501 - £30,000	|__|
£10 million or over	|__|	£30,001 or over	|__|

Total staff costs		Fixed assets	
£18,000 or under	|__|	£25,000 or under	|__|
£18,001 - £36,000	|__|	£25,001 - £50,000	|__|
£36,001 - £54,000	|__|	£50,001 - £75,000	|__|
£54,001 - £72,000	|__|	£75,001 - £100,000	|__|
£72,001 - £108,000	|__|	£100,001 - £125,000	|__|
£108,001 - £162,000	|__|	£125,001 - £150,001	|__|
£162,001 - £216,000	|__|	£150,001 - £175,001	|__|
£216,001 - £288,000	|__|	£175,001 - £200,000	|__|
£288,001 - £360,000	|__|	£200,001 - £225,000	|__|
£360,001 - £414,000	|__|	£225,001 - £250,000	|__|
£414,001 - £468,000	|__|	£250,001 - £275,000	|__|
£468,001 - £540,000	|__|	£275,001 - £300,000	|__|
£540,001 or over	|__|	£300,001 or over	|__|

DEFINITIONS

1. Turnover - All income derived from principal activities of firm, net of V.A.T.

2. Pre-tax profit - Profits from trading + taxation, excluding depreciation, directors remuneration,
                    audit fees.

3. Depreciation - Total on premises, furniture, equipment & motor vehicles.

4. Total staff costs - Total staff wages &salaries,additional benefits, insurance etc.

5. Fixed Assets - Property,plant,fixtures,fittings,office equipment, motor vehicles all at
                  written down value.

F. GENERAL OPINIONS

1. Please read the following statements & say if you agree, disagree or are unsure of them.

	Agree fully	Agree	Unsure	Disagree	Disagree fully	
* Multiple travel agents will get a larger market share because of the computer systems they are able to use.						39( )
* A travel agent without viewdata systems can do as well as one with the systems.						40( )
* Travel staff will try & promote those services whose reservation systems they find easy to use.						41( )
* Independent agents need to group into 'consortia' to be able to gain benefits of computerised systems.						42( )
* The average customer find s a travel agent more credible if he uses computers in his office.						43( )
* Travel agency staff are wary of losing their jobs due to the introduction of computer systems.						44( )
* It is the responsibility of principals, not the agent to do marketing & promotional tasks.						45( )
* Travel agents must do 'preferential selling' of products to obtain override commissions.						46( )
* Travel agents will face a threat from other outlets like supermarkets,mail order,dept stores etc.						47( )
* There is less of personal contact & less of a rapport between agents & principals because of automation.						48( )
* The travel agent has assumed a role similar to a computer operator from the use of automation.						49( )
						50( )
* With the increased use of automation, staff will need less experience & knowledge of facts.						51( )
* In the next 10 years travel agents will have less of booking role& more of a consultative role.						52( )
* There is a lack of staff training in the use of computer & viewdata systems.						53( )

2. In your opinion what are the most important factors that contribute to the success of your business ? Please rank them (1st,2nd,3rd,4th,5th) in order of importance choosing no more than five factors.

Location	|⎵|	Staff expertise	|⎵|
Liaison with principals	|⎵|	Use of computer systems	|⎵|
Managerial abilities	|⎵|	Competition	|⎵|
Sales & promotion	|⎵|	Staff training	|⎵|
Reputation	|⎵|	Price range	|⎵|
Familiarity	|⎵|	External factors(demand etc.)	|⎵|
Range of services offered	|⎵|	Speed of services offered	|⎵|
Other_____	|⎵|	Other_____	|⎵|

|54-55( )( )
|56-57( )( )
|58-59( )( )
|60-61( )( )
|62-63( )( )
|64-65( )( )
|66-67( )( )
|68-69( )( )
|70-71( )( )
|72-73( )( )
|74-75( )( )
|76-77( )( )
|78-79( )( )

===

How long did it take you to fill in the questionnaire ? |_____|

THANK YOU FOR YOUR HELP & CO OPERATION. PLEASE ENCLOSE THE QUESTIONNAIRE IN THE PREPAID ENVELOPE & DROP IT IN THE POST.

```
file handle main/path='main'
data list file=main records=5/
     VAR1 TO VAR223
     (f3.0,2f1.0,f3.0,f4.0,25f1.0,f2.0,f1.0,10f3.0,12f1.0/
     9f1.0,12f2.0,2f1.0,16f2.0,3f1.0,2f2.0,2f1.0,1x/
     f1.0,f2.0,f1.0,f2.0,f1.0,f2.0,f1.0,f2.0,f1.0,f2.0,f1.0,
     f1.0,f2.0,f1.0,f2.0,f1.0,f2.0,36f1.0,6f2.0,2x/
     6f2.0,7f1.0,f3.0,6f2.0,1x,f3.0,15f1.0,13f2.0,1x/
     3f2.0,f3.0,10f2.0)
```

```
var labels
     var1,Questionnaire no./
     var2,Type of agency/
     var3,Primary focus of business/
     var4,No. of UK travel outlets/
     var5,Year agency was established/
     var6,Office location/
     var7,Ownership/
     var8,Scheduled Air - SALES %/
     var9,Scheduled Air - PROFIT/
     var10,Chartered Air services - SALES %/
     var11,Chartered Air services - PROFIT/
     var12,Rail services - SALES %/
     var13,Rail services - PROFIT/
     var14,Retailing Inclusive tours - SALES %/
     var15,Retailing Inclusive tours - PROFIT/
     var16,Organising Inclusive tours - SALES %/
     var17,Organising Inclusive tours - PROFIT/
     var18,Car or Coach services - SALES%/
     var19,Car or Coach services - PROFIT/
     var20,Shipping services - SALES %/
     var21,Shipping services - PROFIT/
     var22,Hotel bookings - SALES %/
     var23,Hotel bookings - PROFIT/
     var24,Insurance - SALES %/
     var25,Insurance - PROFIT/
     var26,Other - SALES %/
     var27,Other - PROFIT/
     var28,Dummy
     var29,Agency region/
     var30,Measure of Company performance/
     var31,No. of competitors/
     var32,Percentage of sales over telephone/
     var33,Percentage of sales over counter/
     var34,Percentage of new customers/
     var35,Percentage of repeat business/
     var36,Percentage of local clientele/
     var37,Percentage of non-local clientele/
     var38,Percentage of leisure travel sales/
     var39,Percentage of business travel sales/
     var40,Percentage of other sales/
     var41,Europe & domestic Air-Advice asked/
     var42,International Air-Advice asked/
     var43,Hotel reservation-Advice asked/
     var44,Europe & domestic ITs-Advice asked/
     var45,Long haul ITs-Advice asked/
     var46,Cruises,shipping services-Advice asked/
     var47,Insurance-Advice asked/
     var48,Europe & domestic Air-Advice asked/
     var49,International Air-Can influence/
```

```
var50,Hotel reservation-Can influence/
var51,Europe & domestic ITs-Can influence/
var52,Long haul ITs-Can influence/
var53,Cruises,shipping services-Can influence/
var54,Insurance-Can influence/
var55,Airlines-Sales support/
var56,Tour operators-Sales support/
var57,Hotels-Sales support/
var58,Car rental cos.-Sales support/
var59,Coach cos.-Sales support/
var60,Railway cos.-Sales support/
var61,Shipping cos.-Sales support/
var62,No. male managerial staff/
var63,No. female managerial staff/
var64,No. male travel sales staff/
var65,No. female travel sales staff/
var66,Managers in age group 16-25 years/
var67,Managers in age group 26-45 years/
var68,Managers in age group 46 years & over/
var69,Sales staff in age group 16-25 years/
var70,Sales staff in age group 26-45 years/
var71,Sales staff in age group 46 years & over/
var72,No. of full time-staff/
var73,No. of part time-staff/
var74,Staff incentive - Commission on sales/
var75,Staff incentive - Profit share/
var76,Mgers education- O\A Level/
var77,Mgers education- Degree\Diploma/
var78,Mgers education- Post-graduate/
var79,Mgers education- Other/
var80,Staff education- O\A Level/
var81,Staff education- Degree\Diploma/
var82,Staff education- Post-graduate/
var83,Staff education- Other/
var84,Mgers exp. travel industry-Under 2 yrs/
var85,Mgers exp. travel industry-2 to 5 yrs/
var86,Mgers exp. travel industry-6 to 15 yrs/
var87,Mgers exp. travel industry-16+ yrs/
var88,Staff exp. travel industry-Under 2 yrs/
var89,Staff exp. travel industry-2 to 5 yrs/
var90,Staff exp. travel industry-6 to 15 yrs/
var91,Staff exp. travel industry-16+ yrs/
var92,Hold a formal staff training scheme/
var93,Staff in specialised groups/
var94,Use computer,viewdata systems/
var95,No. of computer terminals/
var96,No. staff using terminals/
var97,Reason for automating/
var98,Reason for not automating/
var99,PRESTEL usage/
var100,PRESTEL-year introduced/
var101,Tour operator systems usage/
var102,Tour operator systems-year introduced/
var103,PRESTEL Gateway,Skytrack-usage/
var104,PRESTEL Gateway,Skytrack-year introduced/
var105,TRAVICOM Exec\Pres usage/
var106,TRAVICOM Exec\Pres-year introduced/
var107,SABRE\Apollo\Pars usage/
var108,SABRE\Apollo\Pars-year introduced/
var109,Accounting\DPAS systems usage/
```

```
var110,Accounting\DPAS systems-year introduced/
var111,ABC Electronic usage/
var112,ABC Electronic-year introduced/
var113,Other usage/
var114,Other-year introduced/
var115,Other usage/
var116,Other-year introduced/
var117,Other usage/
var118,Other-year introduced/
var119,Late availability - usage level/
var120,Telexing & mailbox - usage level/
var121,Holidays information - usage level/
var122,National Express - usage level/
var123,General information - usage level/
var124,Hotel infm & booking - usage level/
var125,Airline information - usage level/
var126,Holidays reservation - usage level/
var127,Brochure ordering - usage level/
var128,Airline reservation - usage level/
var129,Ticketing - usage level/
var130,Accounting - usage level/
var131,Management reports - usage level/
var132,Client Credit records - usage level/
var133,Client profiles - usage level/
var134,Itinerary printing - usage level/
var135,Electronic Mail - usage level/
var136,Electronic Funds transfer - usage level/
var137,Invoicing - usage level/
var138,Production of statistics - usage level/
var139,Information storage - usage level/
var140,Word processing - usage level/
var141,Range of information-type of change/
var142,Overall costs-type of change/
var143,Accuracy of information-type of change/
var144,Staff numbers-type of change/
var145,Paperwork & documentation-type of change/
var146,Company prestige-type of change/
var147,Job satisfaction-type of change/
var148,Managerial control-type of change/
var149,Staff productivity-type of change/
var150,Volume of services sold-type of change/
var151,Speed of services sold-type of change/
var152,Customer satisfaction-type of change/
var153,Quality of service-type of change/
var154,Variety of services sold-type of change/
var155,Advantages of computerising/
var161,Disadvantages of computerising/
var167,Formal staff training with computers/
var168,Computer training held by/
var174,No. of outlets in a\c figures/
var175,Month of Company a\c/
var176,Year of company a\c/
var177,Total sales turnover/
var178,Pre-tax profit + Depreciation/
var179,Total staff costs/
var180,Total capital employed/
var181,Notes to Accounts/
var182,Multiples larger mkt share with systems/
var183,Agent without viewdata can do as well/
var184,Staff sell services with familiar CRS/
```

```
file handle main/path='main'


        var185,Independents need to form consortia/
        var186,Computerised agent more credible/
        var187,Staff wary of losing jobs/
        var188,Principals must do promotional tasks/
        var189,Preferential selling for more override/
        var190,Agents face threat from other outlets/
        var191,Less principal-agent contact & rapport/
        var192,Dummy/
        var193,Agents role similar to computer operator/
        var194,Staff need less knowledge & experience/
        var195,Agent has consultative role in future/
        var196,Lack of staff training in computers/
        var197,Location/
        var198,Liaison with principals/
        var199,Managerial abilities/
        var200,Sales & promotion/
        var201,Reputation/
        var202,Familiarity/
        var203,Range of services offered/
        var204,Pleasing client/
        var205,Staff expertise/
        var206,Use of computer systems/
        var207,Competition/
        var208,Staff training/
        var209,Price range/
        var210,External factors/
        var211,Speed of services offered/
        var212,Incentives/
        var213,Time to fill in qaire-minutes/
        var214,Causes for success/
```

```
C         Steering program stops if M=0


13      FORMAT(21H NEAR SINGULAR MATRIX,I3)
    17  IQ = 1
        DO 7 J = 1,N
        D(K,J)=0.
        IF (IC(K,J)) 7,7,8
     8  D(K,J) = Y(IQ)
        IQ = IQ + 1
     7  CONTINUE
        IF (SU - K) 11,11,10
    11  WRITE (2,12) K
    12  FORMAT (1 H K TOO BIG, I3)
        STOP
C SET B(K)=1  IF ANY D IS -VE
    10  DO 15 J = 1,N
        IF (D(K,J)) 14,15,15
    14  B(K) = 1.
    15  CONTINUE
        RETURN
        END
        SUBROUTINE SUB31 (M,N,K)
        COMMON //A(500,5),IC(500,5),D(600,5),IV(5),X(5,5),Y(5),B(600)
        CALL SUB312(M,N,K)
        IF(K.GT.N)CALL SUB30(M,N,K)
        IF(INT(B(K)).EQ.1)GOTO 2
        WRITE(2,23)K,B(K),(IC(K,J),D(K,J),J=1,N)
    23  FORMAT(1H /I5,F10.4,5(I4,F10.4))
        CALL PRNT(K,M,N)
     2  K=K+1
        RETURN
        END
        SUBROUTINE SUB30(M,N,K)
        COMMON//A(500,5),IC(500,5),D(600,5),IV(5),X(5,5),Y(5),B(600)
C       Introduce each point in turn and test it
C       K is facet tested and it is data under test
        DIMENSION IZ(5)
C       INTRODUCE ONE NEW POINT AND TEST IT. ISD IS NO. OF DIMENSIONS.
C IC IS NO.OF ROW UNDER TEST
        DO 8 IT=1,M
C       IT IS DATA UNDER TEST AND IS IS FACET TESTED
        IS=1
    13  Z=0
C IGNORE FACETS ALREADY DISCARDED WITH B(K)=1
        IF(INT(B(IS)).EQ.1) GOTO 9
        DO 3 J=1,N
     3  Z=Z+A(IT,J)*D(IS,J)
        IF(Z.GE.1.0)GOTO 4
        B(IS)=1.
        GOTO 9
     4  DO 38 J=1,N
    38  IZ(J)=IC(IS,J)
C       INTRODUCE NEW FACETS
        DO 17 I=1,N
        IF(IZ(I).LT.0)GOTO 17
        IF(IT.EQ.M)GO TO 17
        DO 46 J=1,N
    46  IC(K,J)=IZ(J)
        IC(K,I)=IT+1
        IF(INT(B(K)).EQ.1)GOTO 9
C       TEST IF ROW IS IN OR HAS BEEN IN THE SOLUTION
        K1=K-1
```

```
C        Steering program stops if M=0

11       DO 4 I5=1,N
         I51=I5+1
         IF(I51.GT.N)GOTO 4
         DO 104 I4=I51,N
         I41=I4+1
         IF(I41.GT.N)GOTO 104
         DO 204 I3=I41,N
         I31=I3+1
         IF(I31.GT.N)GOTO 204
         DO 304 I2=I31,N
         I21=I2+1
         IF(I21.GT.N)GOTO 304
         DO 404 I1=I21,N
         DO 9 J=1,N
9        IC(K,J)=-J
         IC(K,I1)=IV(I1)
         IC(K,I2)=IV(I2)
         IC(K,I3)=IV(I3)
         IC(K,I4)=IV(I4)
         IC(K,I5)=IV(I5)
24       FORMAT(4H SOL,7I4,F10.3)
         WRITE(2,24)K,L,I1,I2,I3,I4,I5,B(K)
         CALL SUB31(M,N,K)
404      CONTINUE
304      CONTINUE
204      CONTINUE
104      CONTINUE
4        CONTINUE
2        CONTINUE
         RETURN
         END
         SUBROUTINE SUB12(M,N,K)
C        given facet in C seq. forms coeffs. in D sequence
         COMMON // A(5..,5),IC(600,5),D(6..,5),IV(5),X(5,5),Y(5),B(6..)
C        SET UP X MATRIX AND Y VECTOR,& COPIES Y VECTOR INTO D SEQUENCE
         IP = 1
         B(K) = 0.
         DO 2 J = 1,N
         IF (IC(K,J))2,2,3
3        Y(IP) = 1.
         IP = IP + 1
2        CONTINUE
         IR = 1
         DO 1 ID = 1,N
         IF (IC(K,ID)) 1,1,4
4        J = 1
         IQ=IC(K,ID)
         DO 5 JD = 1,N
         IF (IC(K,JD)) 5,5,6
6        X(IR,J) = A(IQ,JD)
         J = J + 1
5        CONTINUE
         IR = IR + 1
1        CONTINUE
         IP = IP - 1
C        INVY SETS B(K)=1 IF X MATRIX IS NEAR SINGULAR
         CALL INVY (IP)
C        SET UP D SEQUENCE
         IF(INT(B(K)).NE.1.)GOTO 17
         WRITE(2,13)K
```

```
C       Steering program stops if M=0

        CALL SJB31(4,V,K)
29      CONTINUE
        GOTO 2
35      DO 33 I2=1,V
        I21=I2+1
        IF(I21.GT.V)GO TO 33
        DO 133 I1=I21,N
        DO 34 J=1,V
34      IC(K,J)=-J
        IC(K,I1)=IV(I1)
        IC(K,I2)=IV(I2)
3       FORMAT(4H SOL,4I4,F10.3)
        WRITE(2,3)K,L,I1,I2,B(K)
        CALL SJB31(4,V,K)
133     CONTINUE
33      CONTINUE
        GOTO 2
37      DO 36 I3=1,V
        I31=I3+1
        IF(I31.GT.V)GO TO 36
        DO 135 I2=I31,N
        I21=I2+1
        IF(I21.GT.V)GO TO 136
        DO 235 I1=I21,N
        DO 27 J=1,V
27      IC(K,J)=-J
        IC(K,I1)=IV(I1)
        IC(K,I2)=IV(I2)
        IC(K,I3)=IV(I3)
7       FORMAT(4H SOL,5I4,F10.3)
        WRITE(2,7)K,L,I1,I2,I3,B(K)
        CALL SUB31(4,V,K)
236     CONTINUE
136     CONTINUE
36      CONTINUE
        GOTO 2
39      DO 38 I4=1,V
        I41=I4+1
        IF(I41.GT.V)GO TO 38
        DO 138 I3=I41,N
        I31=I3+1
        IF(I31.GT.V)GO TO 138
        DO 238 I2=I31,N
        I21=I2+1
        IF(I21.GT.V)GOTO 238
        DO 338 I1=I21,N
        DO 25 J=1,V
25      IC(K,J)=-J
        IC(K,I1)=IV(I1)
        IC(K,I2)=IV(I2)
        IC(K,I3)=IV(I3)
        IC(K,I4)=IV(I4)
5       FORMAT(4H SOL,6I4,F10.3)
        WRITE(2,5) K,L,I1,I2,I3,I4,B(K)
        CALL SUB31(4,N,K)
338     CONTINUE
238     CONTINUE
138     CONTINUE
38      CONTINUE
        GOTO 2
```

```
C        Steering program stops if M=0


    2    FORMAT (1H ,2 3A4)
    3    FORMAT (2I3)
         READ (1,3) M,N
         IF (M) 8,4,5
    6    FORMAT (5F10.3)
    5    DO 7 I = 1,M
    7    READ (1,6) (A(I,J), J= 1,N)
         READ (1,6) Z
         IF(Z - 1.) 3,4,8
    9    FORMAT (11H DATA FAULT, F10.3)
    8    WRITE (2,9) Z
    4    IF(M.LE.0)GOTO 18
         WRITE (2,10)
   10    FORMAT(18H PRINT OUT OF DATA /)
         DO 17 I = 1,M
         WRITE (2,5) (A(I,J),J = 1,N)
   17    CONTINUE
   18    CONTINUE
         RETURN
         END

         SUBROUTINE MINIMA (M,N)
C        seeks column minima of data and stores their numbers in IV sequence
         COMMON // A(600,5),IC(600,5),D(600,5),IV(5),X(5,5),Y(5),B(600)
         DO 7 I = 1,600
    7    B(I)=0.
         DO 1 J = 1,N
         Z = 1000000.
         K = 0
         DO 5 I = 1,M
         IF (A(I,J)) 3,6,6
    3    A(I,J) = 0.
    6    IF (A(I,J) - Z) 4,4,5
    4    Z = A(I,J)
         K = I
    5    CONTINUE
         IV(J) = K
    2    FORMAT (7H COL NO, I3,4H ROW,I3,7H MIN = ,F10.3)
    1    WRITE (2,2) J,K,Z
         RETURN
         END

         SUBROUTINE NCOUNT (M,N)
C        forms all possible combinations of c counts in N dimensions
C        STARTING FROM COLUMN MINIMA AS DEFINED IN IV SEQUENCE
C        K IS ROW COUNT OVER SOLUTIONS.L COUNTS +VE ITEMS,I.E.THE DIMENSIONS
C        ONE SOLUTION
C        for N less than or equal to 5
         COMMON // A(600,5),IC(600,5),D(600,5),IV(5),X(5,5),Y(5),B(600)
    1    FORMAT (/21H INITIAL SOLUTIONS IN,I3,11H DIMENSIONS)
         K=1
         DO 2 L = 1,N
         WRITE (2,1) L
         GOTO(32,35,37,39,11),L
   32    DO 29 I1=1,N
         DO 19 J=1,N
   19    IC(K,J)=-J
         IC(K,I1)=IV(I1)
   33    FORMAT(4H SOL,3H K=,I4,3H L=,I4,4H I1=,I4,5H B(K)=,F10.3)
         WRITE(2,33) K,L,I1,B(K)
```

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```
C       Steering program stops if M=0


C       Steering program stops if M=
        COMMON // A(600,5),IC(600,5),D(600,5),IV(5),X(5,5),Y(5),B(600)
5       FORMAT(20H OPT SUR LJS 30.10.68)
        WRITE (2,5)
1       CALL DATARD (M,N)
        IF (M) 2,2,3
3       CALL MINIMA (M,N)
        CALL NCOUNT (M,K)
        GO TO 1
4       FORMAT (7H END M=, I3)
2       WRITE( 2,4) M
        STOP
        END

        SUBROUTINE INVY(N)
C       SMALL INVERSION ROUTINE, GIVEN NXN MATRIX X AND VECTOR Y
C       replaces vector Y by inverse of X times Y,
C       destroys X , N up to 5
        COMMON // A(600,5),IC(600,5),D(600,5),IV(5),X(5,5),Y(5),B(600)
C       triangulation
        DO 1 J = 1,N
        IF (ABS(X(J,J)) - 0.000001) 2,2,3
2       X(J,J) = 0.000001
        B(K) = 1.0
3       IF (N - 1) 4,5,6
7       FORMAT (4H N =, I3)
4       WRITE (2,7) N
        STOP
5       Y(1) = Y(1)/X(J,J)
        GO TO 11
6       Z = 1./X(J,J)
        Y(J) = Z*Y(J)
        X(J,J) = 1.0
        IF(N-J)4,1,13
13      J1 = J + 1
        DO 8 L = J1,N
8       X(J,L) = Z*X(J,L)
        DO 12 K = J1,N
        DO 9 L = J1,N
9       X(K,L) = X(K,L) - X(K,J)*X(J,L)
        Y(K) = Y(K) - X(K,J)*Y(J)
12      X(K,J) = 0.
1       CONTINUE
C       Back substitution
        DO 10 L = 2,N
        L1 = N - L + 2
        DO 10 K = 2,L1
        K1 = L1 - K + 1
10      Y(K1) = Y(K1) - X(K1,L1)*Y(L1)
11      RETURN
        END

        SUBROUTINE DATARD (M,N)
C       reads data in M rows N items to each row into the A sequence
C       checks next item read after data is -1. or reports a fault
        COMMON // A(600,5),IC(600,5),D(600,5),IV(5),X(5,5),Y(5),B(600)
1       FORMAT (20A4)
C       reads one line of title of data and prints it
        READ (1,1) (A(I,1),I =1,20)
        WRITE (2,2) (A(I,1),I =1,20)
```

```
C          Steering program stops if M=

           DO 35 ID=1,K1
           IY=0
           DO 19 J=1,V
           Z=D(K,J)-D(ID,J)
           IF(ABS(Z).GT.0.0001 ) GOTO 19
           IY=IY+1
19         CONTINUE
           IF(IY.NE.V)GOTO 35
           B(K)=1.0
           GOTO 9
35         CONTINUE
17         CONTINUE
           B(IS)=1.
9          IS=IS+1
           IF(IS.LT.610)GOTO 34
           WRITE(2,2)IS
2          FORMAT(1H IS TOO BIG , I4)
           STOP
34         IF(K.GE.IS+1)GOTO 13
C REPEAT IF SOME FACETS REMAIN TO BE TESTED
8          CONTINUE
C          CUT OUT -VE D'S AFTER 1ST CYCLE
           K1=K-1
           DO 42 I=1,K1
           IF(INT(B(I)).EQ.1) GOTO 42
           DO 43 J=1,V
           IF(D(I,J).LE..)GOTO 43
43         CONTINUE
           GOTO 42
43         B(I) = 1.
42         CONTINUE
           RETURN
           END
           SUBROUTINE PRINT(K,M,N)
           COMMON// A(500,5),IC(500,5),D(600,5),IV(5),X(5,5),Y(5),B(600)
           DIMENSION E(500)
C          FORM AND PRINT NEW SOLUTION
25         FORMAT (3H EK/10(I3,F10.5))
C SET Z TO MINIMUM SUM
           DO 26 I = 1,M
           Z = 1000000.0
           W = 0.
           DO 129 IP = 1,N
129        W = W + D(K,IP)*A(I,IP)
           IF(W - Z) 31,31,26
31         Z = W
           IF(ABS(Z).LT.0.00001)Z=0.00001
26         E(I) = 100./Z
           WRITE (2,25) (I,E(I),I = 1,M)
           RETURN
           END
```

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