Getting the most out of the Box Office

A Manual on how to develop the Box Office beyond ticketing and use Box Office data for marketing

Roger Tomlinson
BOXING
CLEVER

Roger Tomlinson
Author's foreword

This Manual is the product of a sustained period of research and development work funded by the Arts Council of Great Britain. That work has depended for its success on a great many people, especially the co-operation and help of computerised Box Office system suppliers, marketing staff, and not least the Box Office staff themselves.

Special thanks must go to Peter Verwey at the Arts Council who inspired the work and has been a patient mentor. Stephen Cashman, Kieran Cooper, Chris Grady, Anna Hasson, Jonathan Hyams, Steve Jefferys, Paul Kaynes, Stephen Loasby, Heather Maitland, Duncan May, Danny Moar, Lesley Price, Paul Steeples, Christopher Travers, Peter Walshe, and Sue Wilshere have been especially helpful.

By the nature of this kind of work, it can only be a description of the 'state of the art' up to going to press. And the development of the Box Office function and the use of the data gathered on customers continues apace. New ways of looking at data and using it in marketing seem to emerge daily.

So this is therefore very much a first edition of the Manual, representing the situation in October 1993. It is intended to revise it regularly to ensure that it is an up to date guide to how to get the best out of the Box Office for marketing. Comments and contributions are welcome.

Roger Tomlinson
October 1993
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**Introduction**

This Manual is intended to help all those who want to get more out of the Box Office, both more from the staff who work there and more from the data which should be available from their computerised systems.

The function of the Box Office has changed enormously in the last thirty years.

In the early 1960's, tickets were sold by staff using paper plans, communicating with customers through grills, dealing mainly with personal callers over the counter, taking a few "reservations" over the telephone, and handling many postal bookings. It was common to manage the pattern of booking, specifying for each event the opening date and period for postal booking, followed by over the counter booking, and then telephone booking. Payment was by cash or cheque, most customers using cash. Very little information about customers was recorded, unless there was a mailing list, usually to be paid for, or a season ticket scheme, or a membership arrangement.

In the 1970's the adoption of marketing techniques and the introduction of credit cards revolutionised the operation of the Box Office. Now the majority of customers could book and pay for their tickets by telephone. To generate this telephone business required more information in the hands of potential customers, usually through posting brochures and leaflets to them, so more customers were recruited to mailing lists, now usually free. The increase in these cashless transactions meant many venues, especially
new ones, could dispense with grills and security glass and offer their customers open
counters. Season ticket schemes were replaced by sophisticated subscription schemes.
And in the early 1980's the first computerised ticket selling systems arrived in larger
venues.

To help their marketing, some venues wanted to find out more about their customers.
Some used self-completion audience surveys to understand their marketplace, the
catchment area achieved, and the character of their customers. Some asked the Box
Office staff to carry out 'origination surveys', asking all the customers where they lived.
Some kept the names and addresses of all the customers who booked for particular
events to develop specialist mailing lists.

Yet in many venues, for many customers, the Box Office would hardly seem to have
changed.

In the late 1980's, computerised Box Office systems were introduced which were
designed to combine marketing facilities and ticketing functions, offering fully
developed integral customer databases, list management facilities, and the capability to
record more information about customers and their purchasing habits. This
transformed the function of the Box Office; and transformed the marketing capabilities
and the relationship between the customer and the Box Office. This manual is about
managing that change, and getting the best out of it.
Twenty Reasons for using Box Office Data

- Comparing venue audiences
- Defining the catchment area
- Evaluating responses to marketing
- Finding group or party bookers
- Focussing fund-raising efforts
- Identifying sales prospects
- Increasing ticket yield
- Measuring market penetration
- Monitoring campaigns
- Predicting sales
- Profiling audiences
- Reporting frequency of attendance
- Researching purchasing patterns
- Reviewing sales performance
- Seeking sponsorship contacts
- Selecting customers for direct mail
- Tailoring direct marketing packages
- Targeting potential customers
- Telemarketing campaigns
- Tracking customer purchases
How to Use this Manual

Each Section of the Manual is divided into Chapters. At the end of each Chapter is a Review Agenda and recommended Action Plan. The Review Agenda lists the key areas arising for consideration from each Chapter. The Action Plan then identifies the main points recommended for implementation.

Users of the Manual are expected to consult each Chapter as they need, though the Chapters are arranged in logical sequence so it could be read as a book:

If you want to develop the application of Box Office data in marketing:

First read Section Four. Chapter 8 covers the profiling of the catchment area and audience; Chapter 9 covers direct marketing and Chapters 10 & 11 cover diagnostic techniques to help marketing campaigns and increase sales. Then refer to earlier chapters as necessary.

If you want to develop the effectiveness of the Box Office staff:

Read Section One and concentrate on Chapter 2 which covers the management of the Box office and Chapter 3 which covers how staff can relate to customers.
If you want to build up customer records in the Box Office:

First read Section Two. Chapter 4 covers the information which can be compiled in customer records and Chapter 5 covers the data protection implications. Then refer to other chapters as necessary.

If you want to expand the data on customers and analyse your information:

If you have not already done so, read Chapter 4 on the information which can be compiled in customer records. Then read Section Three. Chapter 6 covers the expansion of the records and the addition of profiling, mapping and other proprietary systems. Chapter 7 delves into statistical analysis and the different ways of presenting the data for interpretation purposes.

The key to success?

Getting the most out of the Box Office will involve changes in management structures and practices, as well as on developing Box Office skills, sorting out the right software and finding out how to use it. The place of marketing and sales in the functioning of the organisation, the position of marketing in the management hierarchy, will have a major effect on the motivation of staff and the effectiveness of marketing thinking, and consequently on its contribution to the success and sales of the venue.

Without the right structure and relationship between marketing and the Box Office, the information only accessible through the Box Office will remain locked inside it.
Section ONE

Creating the Potential
Creating the Potential

Key Questions:

Why is the Box Office part of marketing? 16

Why capture customers names and addresses? 17

How will Box Office data help our marketing strategy? 21

Why bring marketing and sales together? 25

How do we get what we want from the staff? 28

Aren't staff too busy to collect more information? 31

How can staff relate to customers to collect more data? 43
1. The heart of marketing

1.0 The Box Office is at the heart of marketing. Someone in every group of people attending an event has to contact the Box Office, directly or indirectly, to purchase the tickets. Whether they telephone, turn up in person, write a letter, fill in a booking form or contact a ticket agent, there is an opportunity to collect some information about the customer. The booking methods which involve dialogue with the customers provide the opportunity to find out most.

• "Good information is a facilitator of successful marketing, and indeed, seen in this light, marketing management becomes first and foremost an information processing activity"

M. Christopher, and others, Introducing Marketing, Pan London, 1980

1.1 The information will not just be about the person booking the tickets, but also about the make up of the group, especially if there are different reductions for different categories of people or tickets. The transaction between the customer and the Box Office staff, at the point of sale, provides the major intimate opportunity to capture information about actual customers, to find out who they are and how they have found out about events. The name and address and payment details are not enough. The staff can ask questions of the customer, or simply record observed information if they see the customer(s) face-to-face.
1.2 But even the name and address is a powerful starting point:

Mr. Roger Tomlinson
8 The Maltings
East Tyndall Street
Cardiff
CF1 5EA

Identify title and gender, & correct form of address; clues to job/status: e.g. Dr., Rev.

Enables personalised direct marketing; CACI’s MONICA identifies age range; first name is essential for differentiating between household members.

Not enough to differentiate between customers.

Define the catchment area; measure market potential; assess market penetration; create maps.

Identify local market sectors; target door-to-door distribution; access to Mailsort discounts; use proprietary household classifications, e.g. ACORN.

Send direct mail; differentiate between customers with same names; mark up street directories of likely households.
Because the Box Office staff can capture data on all the customers who ever purchase tickets, marketing can be aimed at the whole potential audience, and not just those motivated enough to put their names on a mailing list.

1.3 Experience with systems which build a "masterfile" of customers from transaction data demonstrates that traditional mailing lists often represent less than 20% of actual purchasing customers (and actual customer purchasing patterns are different from what they fill in on mailing list preference questionnaires)(1). People often express an interest in artforms which they in fact attend very rarely. People like to be on the mailing lists of venues they may visit less than once a year.

1.4 Audience survey analysis (2) has demonstrated that on average 25% of current attenders say they found out what was on from a mailing through the post; a further 22% say they were "told by someone" (most often by someone who received a mailing through the post). It follows that more comprehensive lists will lead to more effective marketing.

1.5 Detailed knowledge of the current attenders enables better understanding of the potential attenders, so that marketing techniques can be tailored to each market segment. Analysis of research into potential attenders (3) shows that, for example, opera attenders are affected by different factors according to their frequency of attendance. This points to the need for different marketing messages to be targeted at different market segments. The information to divide the potential attenders into different marketing segments is only available from Box Office records.
1.6 Analysis of who attends specific events now, from Box Office data, can enable the identification of people similar to the current attenders who could then be persuaded to attend. They might be missing out simply because publicity information is not reaching them. They may need a special marketing approach and only the information from Box Office records can guide this. The Box Office data makes them prospects for the future.

1.7 Analysis of the current attenders with customer profiling systems such as CACI's ACORN (A Classification of Residential Neighbourhoods)\(^{(4)}\) can identify the general characteristics of current attenders and point to people similar to them in the community. This can give access to the purchase of names and addresses of people who are not known to attend at present so that introductory offers can be targeted to potential new customers.

1.8 Information compiled from data captured at the point of sale in the Box Office will be drawn from virtually 100% of the ticket buyers. Audience surveys, and other research methods used to obtain information about attenders, draw conclusions only from samples. While for the performing arts in Britain the audience survey has been developed to collect a wide range of information with a reliable methodology, it can only present information from samples or sub-sets of the attenders. Audience surveys can be used to expand on Box Office records, and, with data aggregated together, provide a detailed overview \(^{(2)}\). Mailing list preference questionnaires, however, are less reliable and are only completed by a small proportion of the total attenders \(^{(1)}\). The Box Office is the heart of the information needs about customers, and can pump out data when requested.
1.9 Something as simple as the postcode is the key to access to mapping, market penetration analysis and comparison with market potential, customer profiling, and the use of national statistics. ‘Postcode Geography’\(^{(5)}\) is now the basis for most geo-demographic analysis systems, including the census, and the postcode is therefore a powerful tool for gaining access to huge volumes of data. If the Box Office has collected the postcode, the marketing key can be turned.

**Strategic and Tactical Questions**

1.10 This puts it at the heart of relations with customers and central to marketing. The information which can be compiled in the Box Office is of direct practical use to marketing people, who need reliable information and a detailed understanding of their actual customers to help them plan. Analysis of Box Office data can provide the information to help answer both strategic and tactical questions. Marketing people need clear answers if marketing action is to deliver the right results.

The urgent tactical questions are often:

- how do we know in advance whether an event is under-selling against anticipated attendances and income?

- what action do we take, aimed at whom, to increase attendances for a poorly selling event?
• what discounts or special offers, if any, should we offer to whom, to trigger a response?

But good marketing managers will know the right strategic questions to ask and must know:

| Who                        | are our customers? |
|                            | should our customers be? |
|                            | are we not attracting now? |

| What                        | market segments should be targeted? |

| Where                      | should we develop? |
|                           | are our customers? |
|                           | are we not attracting customers from now? |
|                           | should we target |

| Why                        | do our customers attend now? |
|                           | do some potential customers choose not to attend? |
|                           | do we remain in existing markets? |

1.11 Do you know the answers?

The key strategic questions involved in planning any marketing campaign should be:
• who to target as potential customers, in order to expand?
• how to reach and persuade potential customers?
• how to monitor the response to marketing action?
• what to charge for tickets to maximise income and attendances, and to open up new market segments?

In practice, relatively straightforward analysis of Box Office information will provide detailed knowledge to enable these questions to be answered.

1.12 Given Christian's argument that "Marketing management becomes first and foremost an information processing activity", it is clear that Marketing staff and Box Office staff ought to be indivisible, naturally on the same team. This is dealt with next.
Review

1. What information is available at present, and where from, to answer the questions highlighted on page 21 and the strategic and tactical questions in 1.10 and 1.11.

Action Plan

2. Prioritise the key information gaps with sources known to you.
2. The Human Equation

Management and Motivation

2.0 The management of the Box Office staff, and their relationship with marketing people, is crucial in creating the right working environment and atmosphere. Box Office staff must be motivated to collect and record comprehensive information about customers in a friendly, but reliable, way.

2.1 The Box Office is a busy place, usually with the minimum staff necessary, in a small space, dealing with a flow of customers on the telephone, in person, or by mail and fax. The pressure is on the staff to complete as many transactions as possible, while maintaining good customer care and collecting the information necessary to process the booking (a considerable amount for a customer paying by credit card).

2.2 Managers, whether from Marketing or from Administration, have traditionally been reluctant to risk prolonging sales by extending the data collected or the questions asked of the customer. Some manual Box Offices find it difficult to add the capturing of any further data to transactions. However, many do, and compile effective mailing lists for use in targeted mailings, or carry out simple information gathering surveys into the character of the audience or how they found out about an event.

2.3 Computerised Box Office systems extend these opportunities by simplifying the
transaction and allowing the logging into the system of some customer details, so it is easier to collect more information. But the information will never be collected and recorded if the staff are not motivated to do this and made aware of the importance of this operation.

2.4 Analyses of Box Office records show many staff not recording names or addresses and especially postcodes properly - failure to collect proper title and details of first name and initials can make sending personalised direct mail letters impossible. If postcodes are incomplete or inaccurate, then desk research is necessary to complete them correctly to enable the records to be sorted to gain access to Post Office discounts. Without complete postcodes, many analyses of current attenders will not run. Box office staff need to understand these processes so that they know why it is important to gather full and accurate information.

Management Responsibility

2.5 In an ideal world, the responsibility for planning the marketing, sales, customer care and front-of-house management strategies of a venue would be held by one person: the marketing manager. In practice it is usually the responsibility of a chief executive, who carries the ultimate responsibility anyway, who delegates this to two or more staff, so that the marketing manager is not in this co-ordinating position. This is a major disadvantage. One person, with a team of people to help them, should be responsible for recruiting the attenders, managing the sales, and handling the customers when they attend. Research has shown that flatter, less hierarchical, organisations function more
effectively. Organisations committed to satisfying customers turn their hierarchies upside down to enable more effective feedback from customers and those in contact with them:
Ultimate responsibility for marketing rests at direction level, where inputs from marketing, finance, and artistic direction should be part of decisions on policy and strategy. But mechanisms for listening to customers (and staff), and for co-ordinating sales and customer service are essential. A combined Marketing and Sales Department, incorporating publicity, press, distribution, Box Office and sales is ideal; the best solution adds the Front-of-House functions.

The Marketing and Sales Team

2.6 However, on a day to day basis, if the Marketing Manager is closely involved with the Box Office and Front-of-House operations, it is possible to bring them together, though in practice each may be operated as a separate function. The danger is that personalities and hierarchies can create divisions which get in the way of effective operation. Ideally, the Box Office staff should be part of one marketing team.

2.7 There is always a need to unite the Box Office sales staff behind the policy and marketing strategy of a venue. Staff working in the Box Office should feel they are fundamentally sharing marketing responsibilities and duties. They must be directly involved in collecting information about customers, and should be involved in developing mailing lists, preparing or reading drafts of brochures, leaflets and direct mail letters, and most certainly in final proof reading of copy.

2.8 Box Office staff have a vested interest in compiling accurate customer databases and ensuring accurate marketing information is issued - it makes transactions easier and
quicker. This gives them a direct involvement in collecting customer details, generating business and serving the customer. Fundamentally Box Office staff are sales staff - customers buy things from them, payment is involved - and this should be reflected in job titles, pay and conditions. But the best conditions with good pay and the right title are not enough unless people are motivated and involved.

**Motivation and Involvement**

2.9 The key to the motivation and involvement of the staff usually lies in their working relationship with their immediate colleagues. Their feelings about their part in the success of the venue and how well they are kept informed and consulted, are the feelings which determine whether they will handle customers in a sincerely friendly way to collect information and deliver good customer care. Major improvements are achieved by the introduction of regular briefing meetings, in order to:

- keep people informed
- provide an opportunity for dialogue
- consult with people about implementation
- collect feedback
- 'brainstorm' ideas for marketing and sales.

**Briefing Meetings**

2.10 It is recommend that all the members of the marketing and Box Office sales team should be assembled, outside normal opening hours but in paid time, about once every
3 to 4 weeks and never longer than six weeks. One approach is to open the Box Office for sales later on one day a week, or the first Monday in each month, to create time for staff training and for Briefing Meetings. High Street chain stores claim the public have been found to be impressed by organisations which demonstrate their commitment to training and improving customer service.

2.11 Briefing Meetings should concentrate on explaining to the staff the forthcoming events and the associated marketing campaigns. The meeting must look at the forward programme and focus on how to market the events to the public, using the team as a 'think-tank' with special knowledge from their direct contact with customers. The meetings can also be used for solving operational problems, role plays of difficult customer situations, and in-service training. It is essential that they are used as an opportunity to praise past achievements and successes, collect feedback from the public, and to discuss the setting of goals and targets. Briefing Meetings are the time when the collection and compilation of customer information is planned, the methods decided, and the targets set for data capture. The setting of goals and targets is crucial in placing the work of the Box Office in context and having a real sense of "success" and what it is necessary to achieve - clear targets for collecting customer information enable results to be monitored.

2.12 Experience has shown that the motivational effect of these meetings is increased if they are attended by the most senior executives of the venue. The meetings ought to be attended as often as possible by the people responsible for artistic decisions and programme planning. In producing theatres and concert halls as well as mixed
Creating the potential

programme venues, there is a need for the staff to relate closely to the directors and programmers to keep abreast of information which will help marketing and sales. At venues which host visiting companies and artists, the marketing staff of the touring companies and artists should be invited to Briefing Meetings.

2.13 It is essential to give insights into the thinking behind the programming, especially the Why? as well as how events will be attractive to different segments of the market. The marketing strategy for campaigns must be understood if staff are to cooperate wholeheartedly with data collection. Through these oral briefings the Box Office staff learn enough to be able to talk to customers to describe events to them.

Effective and Regular Communication

2.14 It is vital to establish effective communication if the staff are not to feel at a disadvantage when talking to the customers. Strong motivation is needed for staff to keep smiling while feeling in ignorance and having difficulty answering a customer's questions. There must be a two-way process based on dialogue in which the staff feel consulted, involved, and participating in decision taking. Staff need to feel empowered to seek their own solutions to help the marketing and sales effort.

2.15 Short oral briefings can be effective in enabling staff to "tune in and tune up" before sessions handling customers; ideally there are also "wind down" sessions at the end of shifts. Five minutes in a huddle at the start and end of a shift can give opportunities for praise and thanks, as well as focusing on standards, current operational issues and
bringing people up to date on progress. A regular reminder about the need to collect particular data and a report on the success rate will keep the point to the forefront and people aware of results.

2.16 To supplement briefings, a 'Read Me' In-Tray and File with a staff list and signature box on each document is a good drill for updating information and making sure everyone has had access to the same information in writing. Every item in the In-Tray must be read and initialled by every member of staff when coming on duty, and is then filed in the 'Read Me' File. Details and drills agreed in Briefing Meetings should be recorded in writing and circulated through this process.

Staff Attendance at Events

2.17 Involvement can also be stimulated by bringing all the staff nearer to events. It must be recognised as a fundamental part of the staff duties that they have seen the full range of events in the venue (not just those for which they have a personal preference), so that they can describe them better to the public and talk about the "atmosphere, mood and pleasure". This could be formalised by treating attendance in a professional capacity as paid time. This helps increase the sense of ownership the staff feel for events promoted in the venue. It also helps them develop their understanding of the different kinds of customers for their venue.

Staffing Levels

2.18 The major problem causing difficulty for the Box Office staff in collecting information
The fundamental requirement to be met by the staffing levels, shift patterns and rotas is that enough staff, fresh to serve the customers, are on duty. Marketing is about stimulating demand and making sales. It is essential to provide enough staff on duty at the time people want to book to take the business the marketing has generated. Engaged telephones lose business.

2.19 In too many Box Offices there are times of pressure when not enough staff are on duty, or staff are so busy that breaks are eroded and long hours are worked continuously on shift. Opening hours may not be meeting customer demand, and there are no clear drills and procedures for handling conflicts between the need to deal with the telephone and personal callers. This is when mistakes are made and there are gaps in the customer information collected.

2.20 It is recommended that staff serving customers intensively should have a change of duties every 45/60 minutes, so that, in sequence, they either concentrate on work which could be done 'behind the scenes' (marketing activities, list management, desk research, etc) or at the counter, or answering the telephone. In an ideal world, the Box Office has a large team of fully trained staff, working less than full-time hours, usually only on shift for 4 hours at a time, combining duties in the Box Office with marketing activities - on the basis that a change is as good as a rest. Though staff know what is convenient to them and the hours they prefer, it is necessary to look at what is best for the customer. Customers need enough staff on duty who are alert and have not been working for long hours on one task without a break. Venues need enough staff on
duty to handle transactions in the way which collects the information they require to support future marketing efforts.

**Analysing Times of Pressure**

2.21 The volume of transactions is not even across the year or days of the week, though there may be regular patterns. The times of pressure can be identified from a simple assessment such as asking staff, without consulting each other, to indicate the busiest periods on a time chart of the week. Alternatively, an analysis of the computer transaction log will reveal the pattern of pressure through the week, hour by hour, and point to the appropriate level of staffing for each part of each day. Staffing levels need to vary over the year in response to marketing activity and consequent demand.

2.22 How many extra tickets per hour does a member of staff have to sell to cover the cost of their hourly wage? Most venues find extra hours are usually self-financing from extra matured sales. The availability of trained part-time staff, who could be called in for say, one four hour shift at a time, will help to meet demand according to the pressure of sales. Part-time staff must be willing to work short hours flexibly, perhaps employed on the basis of a guaranteed minimum number of hours per week.

**Extending Hours**

2.23 Some Box Offices have found that they can ease the overall pressure by extending the hours of opening, especially for telephone bookings. The traditional British pattern of opening Box Offices at 10am seems to have more to do with banking hours than
serving customers. Many venues quote telephone traffic at high volumes in the mornings before 10am. There are strong arguments in Britain for moving to supermarket hours - 8am to 9pm - for telephone bookings. The use of an answerphone to ease pressure on the telephone is effective if all calls are followed up quickly. Fundamentally, however, if marketing has attracted customers who want to book, then venues should be geared up to cope with sales.

Collecting Information

2.24 Once Box Office staff see themselves as part of the marketing function and understand the importance of building up the volume of information, they usually find ways to add to data collection without impeding transactions. In practice there are marked differences in the approach to customers of different kinds of venues, perhaps determined by the size of their potential marketplace and chosen marketing methods. Yet in practice every venue stands to gain from collecting information on customers. The relationship with the customer to enable the collection of data is dealt with next.
Review

1. Analyse the present management structure and identify the relationships within it in relation to marketing and the Box Office.
2. Obtain job descriptions and relate them to current practice and future needs.
3. Assess the possibilities for shared duties and responsibilities between marketing personnel and Box Office staff.
4. Review current communication practices and opportunities to brief and involve staff.
5. Monitor staffing levels and the times of pressure from transactions, in relation to shift patterns and rotas, opening hours, and staffing levels.

Action Plan

6. Agree the hierarchy and structure and lines of management and communication, and brief staff on them accordingly.
7. Agree and introduce any changes to job descriptions and duties and provide appropriate training.
8. Agree and introduce a communication strategy, with regular drills for briefings.
9. Revise hours worked, shift patterns and rotas, opening hours and staffing levels to optimise the operation.
10. Explain the marketing strategy and the role of sales and the importance to marketing of collecting information on customers.
3. **Human Contact**

3.0 Every time a member of the public approaches a Box Office counter or rings in on the telephone there is a 'moment of truth'. Customers are in a hurry and want to be served quickly and efficiently. A transaction could seem like an interrogation, in order to collect all the information necessary. The way customers are dealt with could change their impression of the organisation:

> You only ever get one chance to make a first impression.

3.1 Whether staff are behind the counter in a theatre, leisure centre, concert hall, film theatre, civic hall or arts centre, every member of the public is a customer, and the staff are the most important people in putting across the image, personality and policy of the organisation. The customers want a consistent approach and similar drills should be followed by all the staff. This is also vital to achieve reliable data collection.

3.2 Some staff think that what they do behind the counter just comes naturally. But staff choose what they do. And it makes an enormous difference when they choose to behave in a way the customers see as friendly and helpful. Customers know how they want to be served. If staff don't think about what they are doing they could be upsetting them, without realising it is their fault. Staff need motivation. They need to feel friendly to be sincerely friendly. To sell confidently to customers, to recruit them to be loyal to the venue, to collect information from customers to help marketing, needs
commitment, the right attitude and the right circumstances, equipment and training.

**Point of Sale**

3.3 When customers walk up to the counter what they see will give them 'messages' about the organisation and how staff are thinking and feeling about them. The clothes staff wear, the way staff do their hair, project their own personality. Now staff have to project the personality of the venue too. Customers expect them to be tidy and clean. Qualitative research in customer focus groups has found both staff and customers will feel better if staff are dressed in a slightly formal, business-like way.

**Expression**

3.4 All customers prefer a warm friendly smile, eye contact, and undivided attention: the look on the face of the staff will tell them the truth. Are they ready to concentrate on them, to listen to what they have to say? Do staff feel they want to help them and make them happy by satisfying their needs? One smile will put customers in a more receptive mood to hear what staff have to say. And customers can hear a smile on the telephone too. A smile is physiological, relaxes the throat and facial muscles, and so affects the timbre and tone of voice.

**Posture**

3.5 Sitting upright, leaning forward, staff are alert and in a position to be attentive (and actually they are more comfortable because their back is straight and they can breathe
easily). On the telephone, posture affects breathing, so customers hear whether staff are unstressed and comfortable to serve them. Slumped in their seat, leaning back, staff convey indifference and inattentiveness. Fold their arms, cross their legs, and they convey that they are not ready to help customers at all. Even open hands help.

Names

3.6 A badge or a plaque on the counter turns a member of staff into a real person, instead of an anonymous assistant. If customers read their name it tells them the staff are willing to be identified and to stand by the service they offer. It reassures customers that they now know a real person in the venue who can help them and deal with them. Some venues find it improves relations with customers on the telephone if staff volunteer names during transactions. The degree of human contact between people who have identified each other properly makes a significant difference in the ability to collect full information from customers.

3.7 Staff should be given the choice of the form of name they use - first name only, first name with surname, title and surname, title and first name with surname - and whether it is a badge or plaque. Pre-printed or typed is always better than handwritten. The lettering on badges needs to be large enough to be read from the other side of the counter. Most staff choose first names only, because it is most friendly, and customers don't need the surname.
Surroundings

3.8 A clean and tidy workplace is not just clean and tidy, it is business-like. It gives the impression that everything is under control (even if it may not be). Everything should be in its place, with proper containers for everything - tubs for pens and paperclips, trays for mail, folders for papers. There should be a clear workspace with a notepad and pen 'at the ready'. And everything the customer or staff can see should be clean, presentable and up-to-date: old memos, out of date posters, untidiness, dirt and grime, food and drink, even a full waste paper bin, create a bad impression.

3.9 Most counters are designed for staff to look at the customers face to face and eye to eye: 'built in situational conflict' the experts say. It is better for staff to be at right angles to the customer, and customers feel more confident if they can look down at staff. Computer screens are usually sited where the customers cannot see them: yet customers feel better if they can see the screen, find that they cannot interpret it, and are therefore encouraged to feel confident in the ability of staff to serve them. Other services where 'over the counter service' is usual have radically changed their physical relationship with customers. Glass barriers are inappropriate, and major inhibitors to customer care. In Britain some banks and especially some travel agents, where the use of computer terminals in transactions is now essential, have completely changed their counters. The seated customer at the "saw-tooth" style counter seems an effective layout (see over leaf). One ticketing system offers a separate terminal for viewing by the customer; others offer a "graphic" seating plan illustrating the auditorium on their terminals to help customers appreciate the seat location.
**Behaviour**

3.10 How staff behave behind the counter or on the telephone determines the customers' relationship with them, which then makes a great difference to the customers' cooperation and willingness to supply information.

**Attention**

3.11 Customers want undivided attention. They will be disappointed if staff are not looking
forward at them, if staff are talking amongst themselves, particularly if the conversation looks to be gossip. And it is vitally important that staff are not eating, drinking or smoking - these are 'rest' activities, incompatible with being ready to serve. Staff must take regular rest breaks, away from their work station, out of sight of the customers - it is good for staff and good for the customers: it helps keep staff fresh, and it reduces the build up of pressure and frustration if they are very busy.

3.12 Staff need to look at customers properly, especially if some of the data collection is based on observation. The customers like smiles and eye contact, from the very start of the transaction. Staff need to look at them in order to achieve that eye contact and deliver their smile. If staff genuinely look at the customer they will get a chance to "read" them, to sense what they may be like from their expression, behaviour, dress, appearance.

**Telephone Conflicts**

3.13 At the counter there are special problems because the customers expect staff to serve them straight away with no distractions. So staff behind the counter should only be serving personal callers. One of the advantages of the computerised Box Office system is that the terminals for telephone sales, handling mail, etc, can be separate and away from the counter. To create a working environment conducive to data collection, it is important to avoid conflicts by imposing telephone sales and personal callers on one member of staff, unless the volume of transactions is very low.
3.14 Data collection and inputing needs reliable drills. Very often, towards the end of a transaction, over the counter or on the telephone, staff can complete their business with the customer so that the customer can leave or hang up, but staff have some paperwork to complete and data to input to keep records in order. Experience shows that this must be done straight away. Over the counter, as the first customer leaves, the next in the queue will also expect to be served straight away: the friendly routine for staff to follow is always: Smile, Eye Contact "I'm sorry, I'll be with you in a moment".

3.15 The least popular thing for staff to do at this moment is to

- turn their back on the customer
  If it is necessary, why is the paperwork there?
- talk to another member of staff
  If it is necessary, must they do it then?

Staff not available to serve at the counter should not be sitting in a serving place, or in view of the customers at all. Financial reconciliation, report filling, and data processing is best done at a terminal, behind the scenes, in a quiet corner. Busy customers expect the staff at work to be on duty to serve them, and don't understand the need for staff breaks or time for paperwork, so out of their sight is always best.
3.16 Customers don't know who's who. Anyone in vision ought to be available to serve them. If managers need to visit the Box Office to talk business then they should ask staff to leave the serving area to have the conversation. Conversations should never be held, business or private, in earshot of the customer at the counter or on the phone.

Dialogue with Customers

3.17 Box Office transactions still, in the main, involve dialogue between human beings, live, with all the possibilities for successful communication available. Face to face, communication involves both body language and the words spoken. On the telephone, communication is rather more restricted - the words have no reinforcement.

3.18 But staff need to remember that dialogue is a two-way process - they talk, the customer listens then speaks, the staff listen. Listening is as important in communication as what staff have to say. There is an art to listening: when people speak to us we usually show we are listening actively by nodding, or on the phone people say "mm". Nodding is not saying "Yes", it is saying "message being received and understood". If the nodding stops, then the customer thinks there is a breakdown in communication.

Listening Actively

3.19 Customers usually say more when they feel staff are listening actively - so staff find out more about what they want without having to ask lots of questions, and can serve them more effectively. The key to a successful dialogue is to be friendly but business-like. By asking questions the staff will find what the customer wants, but can avoid it becoming
an interrogation by making statements whenever possible.

For example:
- if someone is asked "Are you a pensioner?" because there are reductions to OAPs, then there is the risk of insulting someone

- instead the positive statement "We have reductions for children, students and pensioners - £1 off each ticket" prompts a customer who is eligible to say so.

Open Questions

3.20 Open questions get customers to talk and explain what they want and why. Open questions do not usually receive short answers like Yes or No. For example:

Staff: "Was there a special reason why you wanted to become a subscriber?"
Customer: "We keep meaning to come more often, we miss some things, and with this special offer and the choice, we thought we'd take the plunge"

This is useful information to record about that subscribers reasons for responding.
Closed questions

3.21 Closed questions get customers to give precise answers quickly. For example:
Staff: "Did you see this special promotion in the Evening Paper?"

The customer can only say: Yes or No? Or:

Staff: "How did you find out about this event?"

The customer can only give a specific answer.

Time is of the essence

3.22 All these questions take time, and it is important not to overstay the welcome and patience of the customer. However, questions can save time. In time trials, staff who were slow and methodical in their approach, and asked questions early on, were always fastest in completing transactions with customers. For example, staff who capture the customer's name and use it at the earliest opportunity, find it builds a rapport with the customer.

3.23 In a straightforward transaction the venue will want their name, address and telephone number for their records - the event could be cancelled or changed - and the basis of repeat business is their address and postcode so they can be added to the mailing list. It is essential that staff repeat details back to them, checking spellings and numbers.
3.24 It helps for staff to build up this information steadily, from the very beginning of each transaction. Some staff write it down on a notepad as they collect it, particularly if their computer system needs the details feeding in later in the transaction. The sooner and more easily the information is collected the better. However, the basic information will always be required on payment. If the customer's name has not been collected by this point, there is a very good chance the details can be collected naturally by asking for name and address to be written on the back of the cheque or for the credit card statement address details.

3.25 If staff really are rushed, with a long queue of frustrated customers, they give could customers a card to fill in with the details, so they can move on to the next customer and save time, inputing the information later. Some computerised Box Office systems allow a pro forma to be printed out onto the ticket stock, encoded with details of the event attended.

3.26 Rapport can be lost with the customer when the staff start processing the transaction. If it draws staff away from the customer - to turn and look at a computer screen, to consult a plan, pull out a file, get a ticket - staff need to explain what they are doing. Some staff continue talking in a friendly way to customers, asking informal questions to collect more information.

3.27 The information beyond the basics of name and address transforms the usefulness of Box Office data for marketing. This is dealt with in the next Section.
Review

1. Look at the point of sale from the point of view of customers. Is it "user-friendly"? What about the appearance of staff, their physical setting, the layout and decoration, seating and equipment?

2. Review with the staff their behaviour towards customers, their "customer care" and welcome, their relationship with customers.

3. Identify the drills currently used for handling data collection, telephone conflicts, queues, meal breaks, shortage of staff.

4. Analyse the operational problems of increased data collection and the needs of the staff.

Action Plan

5. Plan long term improvements to the Box Office; implement in the short term any cleaning and re-decoration and any changes to furniture.

6. Establish codes of dress and codes of behaviour towards customers in consultation with the staff; establish drills for operation.

7. Train staff in developing the rapport with customers and asking questions to find out more.
Section Two

Building the Resource
Building the Resource

Key Questions:

What kind of information can we collect? 53

How do we build up the database? 52

Why is the postcode so special? 57

Why do we want this information in customer records? 54

What about Data Protection issues? 77

Who can use the data we collect? 80
4. Customer Information

4.0 Computerised Box Office systems which integrate ticketing and marketing functions, compile a 'patron' or customer database as a central function and offer additional opportunities to record information. It is essential to plan the content of the database, to decide the form of the records and the fields which will contain them, and plan systematic collection of the data. When Box Office staff are motivated to help marketing by collecting as much data as possible, they find it frustrating if the system impedes them. This chapter describes the information which will help create a complete customer database, and the characteristics of the fields and the records, and suggests ways to obtain the information.

4.1 This is not intended to be a technical software Manual, and it cannot relate to any specific software application. However, it is necessary to identify the pitfalls in building a database if full use is to be made of the information recorded therein.

4.2 Most computerised Box Office systems come with much of the database pre-configured. However, most also offer many opportunities to extend the records by adding new fields. It is essential to find out how the system searches, sorts and selects in order to decide how to configure new fields and record information. Databases can search through records using the text or numbers or dates and times, and usually a combination of text and numbers, but not necessarily all three. And some can only search on one at a time, or need careful attention to punctuation if records contain
multiple entries. Fields which contain times or dates can be problematical, especially if the system automatically adds or updates dates and times. Box Office staff are notorious for using a typing shorthand to speed data input - "skl" for school - and unless the system offers "sounds-like" and "looks-like" search facilities it is necessary to require pedantically accurate data entry. Completeness is usually essential. Some fields can be set up with default entries if the Box Office fail to complete them; for example, the title field. Some databases offer "calculation" fields, calculated from other fields.

4.3 It is also important to know the intended use the records. For example some databases record the title and initials of a person in the same field. This makes it virtually impossible to personalise a direct mail letter correctly, because the salutation would have to include the initial and read "Dear Ms. A Jones", whereas if title and initials were recorded in separate fields the salutation "Dear Ms. Jones" would be possible.

4.4 The key to successful operation of the database is therefore the design of fields. This includes the length of fields (the number of characters which can be recorded), whether they are text, or numbers, (or a combination of the two), or currency or dates/times, or calculated fields, and how any different answers are recorded in them. For example, are there separate fields for each artform interest with "yes"/"no" option for each of them? Or is there one field which could contain codes representing any or all of them? The potential advantage of this latter flexibility is that if classifications change or expand then the database can be interrogated for all the possible variants.

4.5 According to the character of the data to be contained in the field there will need to be
different solutions. This will affect selection criteria and report compilation, and, with some systems, have a significant effect on processing speed. The criteria for each of the fields we expect to find in a customer database, and why we want to collect this information, are detailed in the rest of this chapter. Data Protection issues will affect the information which is collected and the way customers are made aware of the recording of their data. Some information is essential for the basic functioning of the ticketing process, but the 1984 Data Protection Act\(^{(6)}\) in Britain requires customers be given the option of their data not being kept; in practice what has to happen is that their data is suppressed, so that if more information is collected it will not be used. It is essential to be systematic in collecting data.

### Three steps to building data

1. **How will the data be collected from customers?**
   - What questions will need to be asked?
   - What drills will need to be followed?
   - What extra information requests need to be added to forms or on-screen tables?

2. **Where will the information be recorded?**
   - What extra fields need to be added to on-screen tables?
   - What is the field format required: length, character; is time/date of creation or amendment necessary?

   If data is captured in the transaction or on paper:

3. **How will the data reach the customer record?**
   - What processing will be necessary to compile customer records?
   - What data entry will be required?
## The Potential Customer Record

<table>
<thead>
<tr>
<th>Name</th>
<th>Title; Gender; Initials; First name (familiar name); Surname Qualifications (any suffix)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post:- In Employment; Employer</td>
<td></td>
</tr>
<tr>
<td>Post:- Honorary posts and Organisations</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Addresses: Home, Business, and/or Temporary Address</th>
<th>(for ticket posting, second and holiday homes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number; Building Name; Street/Road; District</td>
<td>Post Town; County; Postcode</td>
</tr>
</tbody>
</table>

| Phone numbers (trunk dialling code and numbers)     |                                                                                      |

<table>
<thead>
<tr>
<th>Age/ Year or date of Birth</th>
<th>Social Grade or other socio-economic information</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ethnic origin information</td>
</tr>
</tbody>
</table>

| Profiling classification e.g. CACI's ACORN or CCN's Mosaic |                                                                                      |

<table>
<thead>
<tr>
<th>Buyer Type(s) -</th>
<th></th>
</tr>
</thead>
</table>

the type of customer and their interests, including:
the performances/events attended
how they found out about the performance/events
the relationship of the customer to the venue
the type of tickets bought:
the number of tickets purchased and price paid,
the payment method
the time of booking

additional records(fields) for any other information, e.g., fundraising, donations, sponsorship contacts
4.6 Something as apparently simple as a person's name requires careful thought to record it properly and usefully. Separate fields are needed for:
- Title
- Gender
- Initials
- First name (familiar name)
- Surname
- Qualifications (any suffix)

Salutation

Title fields need to be long enough to record 'The Right Honourable' etc; correct identification of male/female is needed mainly to ensure the right form of address. Title fields where the gender is not known should default to 'M.'. Initials can be important for identifying different people in the same household and/or family, and are used instead of first names in addresses. Qualifications are important to those people who quote them after their names but also as a potential key to segmenting the market or for fund-raising purposes.

4.7 All this information can usually be collected without difficulty during the transaction. However, the choice of salutation - "Dear etc" - will need to be made, mainly dependent upon the relationship between the customer and the venue. This could be done by the member of staff at the time, or may need to be carried out as a routine at
the end of a shift by a supervisor. For effective direct mail on a personalised basis, it is important that the salutation reflects how friendly the relationship is with the customer.

**Posts**

4.8 Customer records need to deal with customers in relation to their employment and in relation to any honorary or other posts they hold. This information can be useful in targeting for group bookings and for fund-raising and sponsorship.

- **Post:- In Employment**
  - Employer (Relates to post)
- **Post:- Honorary posts**
  - Organisation (Relates to Honorary posts)

The job someone does is often evident - a teacher makes a school booking or a person makes a booking on their firm's notepaper - and this information is very useful. Using the standard classification of occupations it could then be possible to identify the social grade for profiling purposes. This may never be comprehensive, but it can be useful. For example, it is important to record people as Councillors or Women's Institute secretaries to enable the database to use the records for many different purposes. This kind of information is harder to collect and may not arise naturally from a transaction. If someone calls from work the staff can ask for their job title as part of preparing to call back. Correspondence can be read carefully to identify information worth transferring to the database.
Address

4.9 In practice some Box Offices find it necessary to record at least three addresses. The Home Address is obvious. The Business Address is useful as indicated above if the customer uses it or it is discovered. Some teachers making school bookings will ask to be on the mailing list at their home address to ensure that brochures and circulars reach them; it is also necessary to record their school address in the Business fields. The Temporary Address is intended for ticket posting, usually for second and holiday homes or when the address for tickets is different from that for the Credit Card statement. The Royal Mail Rapid Address (18) system can speed the input of complete addresses.

4.10 The fields for the addresses are important. Some databases simply record the address in the "first line of address, second line of address" and so on, format. Unfortunately it is important to identify some of the information specifically, and some of it must be recorded in a specific way. It must be emphasised that the postcode is the most important part of the address and the record is incomplete without it. The importance of collecting this in transactions can be emphasised by giving the Box Office staff the task of looking up postcodes for all records where this is missing or incomplete. The fields for an address can be specific:

<table>
<thead>
<tr>
<th>Number</th>
<th>Building Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Street/Road</td>
<td>District</td>
</tr>
<tr>
<td>Post Town</td>
<td></td>
</tr>
<tr>
<td>County</td>
<td>Country</td>
</tr>
<tr>
<td>Postcode</td>
<td></td>
</tr>
</tbody>
</table>
Postcode Geography
The key to geographical information systems

Postcode Areas: 120
Postcode Districts: 2,679
Postcode Sectors: 8,820
Postcodes:
  Residential: 1,397,754
  Non-residential: 151,765
  Large Users: 171,541

Total Postcodes: 1,721,060
Residential deliveries: 23,845,162
In Britain the POST TOWN is supposed to be on a line on its own in capital letters to assist the optical character recognition readers in automatic sorting offices. The postcode must be on a line on its own for the same purpose. This cannot be accomplished unless the information is in separate fields. Because postcodes in Britain do not conform to local authority boundaries, the recording of Counties can help enable the catchment area to be analysed on the basis of political geography, to help justify a grant for example. This may prove less useful when local government is reorganised.

### Phone

4.11 People often have, and use, multiple phone numbers in connection with even one Box Office transaction. As a result it is necessary to record in separate fields if possible the following numbers:

- Daytime (assumed to be work)
- Evening (assumed to be home)
- Mobile (car-phone)
- Fax

At least one phone number (not fax) is essential for each customer record. The trunk dialling code must be recorded, and punctuated from the caller number. This is important if the system is to cope with changes in numbers, either modifications of trunk dialling codes or the adding of digits to caller numbers. Local dialling codes
should be avoided because they could be difficult to change automatically and cause problems when numbers are being used outside the area, for example by a touring company education officer. For telemarketing and other purposes, the phone number is a crucial part of the customer record.

4.12 Advanced telephone computer systems with caller number recognition can use the phone number to automatically call up the customer entry on the database. This will be especially useful when telephone subscribers are allocated unique permanent numbers (expected in Britain late in the 1990s). Many customers now use fax to make bookings. Many Box Offices say customers use their mobile phones to make bookings, sometimes when driving to the venue. All these numbers are useful.

Age

4.13 It is unusual to find customer records in Box Offices including the age or year/date of birth of customers. Yet this is crucial if proper market segmentation is to be achieved. For example, for direct marketing purposes, the approach to a customer should be different if they are 25, 45 or 65. It is unlikely that the age of a customer will be accurate to date of birth, but some organisations with Friends or Membership or Subscription schemes ask for the birthdate so that they can send Birthday Cards. The Box Office is most likely to identify the age range either from the ticket type or by visual assessment of the actual customer. The ticket type will record information such as child/ student/pensioner, though it is important that this must relate to the actual customer, and not someone else in their group. Some venues use different reductions
on tickets for children of different ages to help identify their market for events for specific age ranges of children, and to provide age data for the long term.

4.14 Age and age range data is recorded on the basis of birth year or a range of birth years. Thus in 1993 45-54 year olds are recorded as "1939-1948". In Britain there are standard research age ranges which must be used to ensure compatibility for research purposes (8). Box Office staff can look at customers to make a visual assessment of their age range, and quickly compile quite reliable data.

Social grade

4.15 The social grade of customers is likely to be used only as a research tool, or as part of sophisticated customer profiling. The fact is that Box Office staff could collect some of the information which enables the social grade to be arrived at. The social grade of customers can be compiled from the employment data above (see para. 4.8). This is likely to be a task which can only be partially automated, involving comparison of the data entries with a table of standard categorisations. Many records may be queried for manual coding.

4.16 Many customer records may not carry employment details, but venues may have survey information to help close gaps. In Britain, information collected in audience surveys or other research is not allowed, by the Market Research Society Code of Practice, to be transferred into customer databases without the express permission of the individuals. An 'in-house' audience survey could ask people's permission to record the data on the
venue database - to help in meeting customer needs. The Joint Industry Committee for National Readership Surveys (JICNARS) \(^{(7)}\) has a standard set of social grade definitions. The Arts Council has published a short explanatory note.

**Residential or Household Classification**

4.17 While the social grade of customers may not be easily useful, the ability to classify customers by residence or household from their postcode is very useful, and straightforward. In Section Three, Chapter 6, will identify the ways in which extra information can be added to increase the potential of records. Commercially available address profiling data such as CACI's ACORN (A Classification of Residential Neighbourhoods)\(^{(4)}\) enables customers to be classified into distinct groupings, which then have further use for profiling customers and for making comparisons with national statistics.

4.18 Such data is added either by extracting the customer names and addresses and sending these to be processed by the proprietor of the classification, or by purchasing the encoding information from the proprietor. This can be expensive, though the data is very useful and cost effective. Depending on the storage system for the Box Office computer, concentrated directory type files can be imported to enable the addition of the encoding information to the system so that customer records will be coded automatically.

**Ticketing History**

4.19 Central to the usefulness of the database is the ability to pull information from the
ticketing history of customers. This changes the database from collecting data that largely remains fixed, to actively collecting changing data from the ticketing history. Most systems will access this data only as part of search and selection routines in connection with data processing for a specific task. Many marketing people assume that ticketing history data can only be pulled from the ticketing database on a 'live' basis, during current ticketing activity. For processing for marketing purposes, this is not recommended.

4.20 If data is batched for processing instead of working with live data on-line, this will help the speed of system operation. However, it will also greatly improve functionality if the data is pre-processed into fields calculated from the ticketing history. Many records about customers should be created from "look-ups" into the ticketing history. Some could create "scored" fields giving customers a rating based on a series of factors (see Multi-Variate Analysis in Section Three Chapter 7). However, the following points are important if full use of the data available is to be achieved:

**Performances/events Attended**

4.21 While data is 'live' in system memory, most systems allow the identification of each attendance at each event. However, some systems do not allow this once ticketing records are archived and details are logged in the customer database. Some systems turn performances/events attended into "customer interests" in the customer record. This seriously undermines the effectiveness of the data for marketing purposes. Ideally, records must remain discrete so details of actual individual performances and events can
be identified. Records of customer interests or preferences must never be combined with performances and events attended in such a way as to lose the ability to identify actual attendances.

4.22 When planning marketing action, most marketing managers regard the details of the performances/events attended as unique and prefer to segment attenders on the basis of the actual attendances. Someone who has only attended Twelfth Night and As You Like It is probably a different kind of 'Shakespeare attender' from someone who has only attended King Lear and Titus Andronicus. Yet most systems will require some 'event categorisation' in order to reduce the volume of records; most marketing managers will need some form of 'event categorisation' in order to manage their records and speed customer segmentation. If at any time, it is necessary to export or import data, it will be necessary to ensure that 'event categorisations' are compatible with other records. This is important for marketing consortia, city-wide ticketing networks, and touring companies. This is now a crucial issue in the future ability of Box Office systems to network together or to share data between venues.

Event Categorisations

4.23 Some of the management bodies in Britain, such as the Theatrical Management Association (9) and the Association of British Orchestras (10) have a standard set of categorisations for types of theatre and concert performances. For the Society of West End Theatre (9) and the Theatrical Management Association these were devised by the City University (11) for data compilation and research purposes. Some of the User
Groups of the computerised system suppliers in Britain are getting together to discuss a standard set of 'event categorisations' to enable data exchange and to enable access to customer profiling using data from more than one venue.

4.24 The key to effective 'event categorisation' is to avoid the aggregating together of performances/events of discrete character. 'Theatre' is an unhelpful cluster of records, but so also is 'Plays'. The Theatrical Management Association\(^9\) categorisation has over 19 categories for theatre, and many marketing practitioners want these extended.

Preferences

4.25 Having made clear that 'Performances and Events Attended' data must not be mixed up with information on customer preferences, there is a separate role for this information and therefore a need for separate fields. Questionnaires can be sent to customers which ask them to supply further information on their interests and preferences, in order to help the organisation send appropriate details of forthcoming events to them (though actual customer purchasing patterns can be different from what they choose on mailing list preference questionnaires)\(^1\). This will enable the identification of those events they claim an interest in but do not yet attend. Again it is vital to collect this information in the most useable form. Will customers recognise their broad interests if broken down into specialist detail? Will customers narrow their interests too much if given a detailed choice?
**Relationship of the Customer to the Venue**

4.26 A number of fields must be used to provide full opportunities to record all the possible relationships of customers to the venue, without aggregating or confusing data. Each type of relationship will require many categories. Most will need the ability to record automatically the date an entry is first made, and separately the dates of any changes to the record. Some fields may need a separate text field set up as a memorandum to record notes on the activity involving the customer, especially for membership schemes involving contributions, and for subscriptions. For example, a subscriber may have been telephoned to chase their subscription renewal and they explained why they are not re-subscribing - the reasons may prove useful in contacting them in future years.

4.27 The list below is not exhaustive but lists the principal areas of the customer relationship:

- subscriber (multiple categories including current or lapsed; number of years; subscriber type)
- member (multiple categories, including whether paying by covenant, contributing member)
- donor (multiple categories)
- sponsor (multiple categories)
- board member (multiple categories)
- respondent to sales drives and promotions (multiple categories)
- data protection opt-out (records suppressed)
- distributor of publicity (multiple categories)
Some of this data can be entered automatically, as the customer carries out a specific purchase. Some can be the subject of specific questions to the customer: "Are you responding to our special offer in the Evening Paper?". Some will need to be separately inputed from lists. These relationship categories are the ones which marketing people use to exclude some customers from marketing activity, including those people who opt-out under Data Protection rights. For example, some venues exclude subscribers from further mailshots targeting single ticket buyers, or exclude from general lists their Board or management committee members and people such as sponsors and donors (See Section 4 Chapter 9).

4.28 The usefulness of data on the relationship of the customer with the venue will depend on the system "housekeeping". This data must be up to date, accurate, and currently relevant. This may involve, for some records and fields, the planned deletion of all information entered before a certain date in order to maintain the relevance of records. This is particularly important for recurring promotions when the number of times a customer has responded, and when, is more important than knowing they once responded five years ago. However, calculation fields may be affected by the deletion of old data, and historically compiled values may need to be retained in some cases (see paragraph 4.30 below on party bookers for example). This is usually achieved by copying the values from calculation fields into a new field.

**Ticket Type**

4.29 This is the area of customer records where care is needed to obtain reliable and useable...
information. Clearly the customer will usually buy more than one ticket for an event and the ticketing history will record the status and character of these tickets. However, some systems, unhelpfully, record all reduced price tickets as "concessions", preventing further analysis from transactions. The customer record needs fields which identify the type of ticket bought by the purchaser for themselves as well as logging the other types of tickets bought; this is crucial in identifying families for example. It is essential that there are a sufficient number of different "concession" categories, the list below not being exhaustive:

- child (with age ranges)
- school (with type: primary, middle, secondary, tertiary)
- student (assumed to be 17+)
- pensioner
- unemployed
- any other concessions (multiple categories)
- promotions (multiple categories)

This data then needs translation into useful information in the customer record. While the above "concession" categories are appropriate, for marketing purposes some venues find it useful to identify:

- families with children under 7
- families with children of 7-13
- families with children of 14-17
grandparents bringing children under 7
grandparents bringing children of 7-13
students buying multiple tickets

Some venues may find these categories more appropriate than others. Decisions need to be made about how these records are compiled. Is a specific search conducted on recent ticketing history each time these categories need to be found? Or are records compiled continuously from accumulating transaction data? The former is acceptable if the search and selection is only being done for direct marketing purposes; the latter is the preferred approach, especially if analysis and customer profiling is envisaged. Note that these categories are already starting to find people booking multiple tickets so that group or party bookers can be identified.

**Group or Party Bookings**

4.30 Different organisations choose different sizes to define groups and parties, and offer different reductions, sometimes varying for different events. There is thus no standard way to define a Group or Party. However, for direct marketing and targeting it is essential to be able to identify Group or Party Bookers, and the kind of performances/events they book for. The system will record in the ticketing history the number of seats booked for which events, so for the customer record it is necessary to compile a field or fields. The simplest way is to set a look-up field for all those people who had ever booked more than say 8 seats (not necessarily the smallest party size you might choose) according to a range of event categorisations. However if a customer
usually books only two seats per transaction, but once books 40 seats, do we expect the database to compile them on the number of tickets purchased based on the party-booking or the more usual two seats? Some venues find it useful to compile party bookers in a series of ranges; the following should meet most needs:

Largest number of tickets purchased:

<table>
<thead>
<tr>
<th>Range</th>
<th>1-2</th>
<th>3-4</th>
<th>5-8</th>
</tr>
</thead>
<tbody>
<tr>
<td>9-12</td>
<td>13-20</td>
<td>21-30</td>
<td></td>
</tr>
<tr>
<td>31-40</td>
<td>41+</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In fact we may want to know the average number of seats purchased or the range from smallest to highest - the routines to compile this can either be defined as search or look-up criteria, or a calculation field could be used.

**Price Paid or Payment Level**

4.31 Similarly to Group or Party size, the system will record in the ticketing history the price paid and the type of tickets bought for which events, so for the customer record it is necessary to compile a field or fields to identify the payment level of the customer. Customers are likely to pay different prices for different events, and may pay different prices from other customers for the same event/performance. The wider introduction of variable seat pricing and movable price breaks makes this even more complex. There is no doubt that it is necessary to record in the ticketing history the actual price paid, with any identification of ticket type to enable understanding of reductions or discounts in
4.32 In the customer record it is very useful to record the part of the auditorium the
customer usually occupies, and the price range by type (lowest price, middle price, top
price, etc). This may require two fields, because for some events the part of house
which equates to top price will change; for example for opera the circle is usually top
price, while for ballet it is usually the stalls. Arts Council research commissioned from
Peter Walshe at Millward Brown International\(^{(12)}\) confirms that recording price by the
place in the range is the most useful because it enables the price level to be related to
different events, and is not affected by inflation. The research demonstrates that most
customers buy tickets in the same place in the price range for different events; if they
attend high priced opera and sit in middle price seats, they also occupy middle price
seats for inexpensive drama.

4.33 The system will record in the ticketing history the price paid. This may not give explicit
information about the part of the auditorium occupied. So for the customer record it is
necessary to compile a field or fields to identify this. The simplest way is to set a look-
up field for all those people who had ever booked the top price range. This would
require price paid to be logged as follows:

Price paid:

First price (lowest)   Second price (next lowest)
Third price (next upwards)   And so on
4.34 Marketing Managers are interested in the analysis packages to help maximise income and attendances by optimising ticket prices, so auditorium layouts can be set to offer those prices most requested by the customers - in fact usually higher priced tickets. Any system designed to optimise prices (including discounts, reductions, and "superseating") will need to call on price and time of booking information, best accessed directly from the ticketing history. This is dealt with in Section 4 Chapter 11. However, it is important that the basic information is added to the customer record.

**Time of Booking**

4.35 The customer record should contain details of the usual time of booking in relation to the payment method. Arts Council qualitative research has long identified that some people are "planners" and organise their visits and book well in advance, while others are "spontaneous" and only decide to make a visit at the last moment and frequently book in the very week or on the day of the performance.

4.36 The time of booking is important in selecting customers for different marketing campaigns. It may save money on a campaign to trigger last minute bookings for an under-selling event to omit the "planner" people. Some systems record the time/date of booking as "days minus the performance/event", some number the days or weeks. To be of maximum use, at least the range of 'time/date of booking' is needed, related to the performance/event booked - there may be differences according to the character of the event.
4.37 The system will record in the ticketing history the time/date of booking. So for the customer record it is necessary to compile a field or fields to identify this. The simplest way is to set a look-up field to identify the range of time of booking. This will need to be updated regularly because purchase and booking patterns change - many venues say advance booking is reducing. It is useful if the record shows the following ranges, based on the last transaction:

Time of booking:
- On the door
- Day of the performance
- Two to three days before the performance
- Four to seven days before the performance
- Seven to fourteen days before the performance
- Fourteen to twenty one days before the performance
- One month before
- Earlier than the above (with time bands which relate to marketing activity)

Payment Method

4.38 The customer record needs to show the usual type of payment method. As well as credit cards (giving name of card), cheque, switch, and cash, it is necessary to log those customers who use the variety of payment schemes which some organisations now offer, including accounts, direct debit, and payment by instalments. For membership schemes and other non-ticket transactions, it will be necessary to record information
such as covenants, donations, and so on. Some venues are also investigating the equivalent of their own chargecards, and card operated discount schemes.

4.39 The payment method can be crucial in selecting customers for direct mail and telesales campaigns, targeting only those customers for a telemarketing campaign for example who have a credit card and pay for their bookings in full over the telephone.

4.40 The system will record in the ticketing history the payment method(s). So for the customer record, it is necessary to use a look-up field to identify the payment methods used. This will need to be updated regularly because payment methods change.

**How They Found Out**

4.41 Marketing Managers want to know how customers found out about the performance/event they booked for, either:

- to monitor marketing activity, or
- to establish the principal source of purchasing information for each customer

This information can be collected either by mailing specific survey questions to customers, making clear that their answers will be recorded on a database, or by asking customers these questions over the telephone or face-to-face, usually as part of transactions. Some Box Office staff are concerned that these questions appear to go
beyond the context of the transaction and they become worried that customers will find them intrusive. In practice, venues which have attempted to collect this information on an experimental basis have been able to do so successfully - in fact customers recognise the importance of venues understanding the effectiveness of their publicity methods. However, it is important to collect data in a way which keeps customers friendly and complies with data protection principles. This is dealt with next.
Review

1. What is the basic data the system collects and records in the ticketing history?
2. Which of this data is retained in memory when events/performances are removed from the system?
3. What routines are available to create new fields to enable records to be compiled from the ticketing history.
4. What data could be usefully collected from customers to extend the above? Which are the strategically important gaps in the information?
5. How could extra data be collected? Is there a role for mailing list preference questionnaires (perhaps as part of Data Protection procedures)? Is there a need to ask questions during transactions? Are there other opportunities on booking forms, membership applications, etc.
6. Where and how would extra data be recorded and inputed?

Action Plan

7. Agree the form of the customer record and create the fields and formats to contain it, and set up the on-screen format and prompts.
8. Train staff in the collection of the data required, establish drills for collection, and agree priorities and targets with them.
9. Devise appropriate forms for mailing list preference questionnaires and revise other forms to enable data collection.
5. Data Protection

5.0 In order to make effective use of customer records, detailed information is collected about customers. While this is being used exclusively by the venue exclusively to market events and performances to these customers, there should be no problems about the collection and use of the data, provided the venue is registered as a "data user". But it is very important to understand the principles of data protection, and the application in Britain of the Data Protection Act 1984 (6) and the appropriate European Community directives.

5.1 In Britain, the Data Protection Act 1984 grew out of public concern about personal privacy in the face of rapidly developing computer technology. There continue to be controversial cases involving the Banks and Credit Reference Agencies which apparently show to customers that their data is not "safe", despite this law. Direct marketing activities are seen as intrusive by some people, who question how their name is obtained by organisations with which they have had no contact.

5.2 Unfortunately there is little clarification of how the law should be applied in practice, because by 1993 there is as yet no case law to define it. Some "Codes of Practice" have been drawn up by groups of "Data Users", but the Data Protection Registrar, while welcoming these, has also said that he disagrees with their interpretation of the law! This is an area where what the customer thinks is crucial.
5.3 The Data Protection Act 1984 defines "Data Users" as

'those who control the contents and use of a collection of personal data'.

This can apply to any kind of organisation and a "Data User" need not necessarily own a computer. "Data Users" must register under the Act (in 1993, £75 for three years). In registering under the Act an organisation becomes bound by the eight Data Protection Principles:

<table>
<thead>
<tr>
<th>Data Protection Principles</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Under the 1984 Data Protection Act, data must be:</strong></td>
</tr>
</tbody>
</table>

1. Obtained and processed fairly and lawfully
2. Held only for the lawful purposes specified in the data users entry
3. Used or disclosed only in accordance with that entry
4. Adequate, relevant, and not excessive for the purposes for which it is held
5. Accurate and where necessary kept up to date
6. Not kept for longer than necessary for the purposes specified
7. Made available to the individuals concerned on request
8. Protected against loss or unauthorised access, alteration or disclosure

5.4 Separate legal entities must register separately - a venue which is registered will not
cover a touring company or artist performing in it, which must also be registered. The organisation collecting the data onto its Box Office system must be registered, and is the "Data Controller". The relationship between venues and promoters complicates this further (See paragraphs 5.9/10 below). But first it is important to understand the first Data Protection Principle, that data is obtained fairly.

5.5 "Data Subjects" - individuals to whom personal data relates - must be informed at the time of collection of data if the intended use of the data is non-obvious:

WHO is holding the data
For WHAT is it likely to be used, and
To WHOM is it likely to be disclosed

What is "non-obvious" use of the data can only be defined by customers. Their understanding of what data is collected in a Box Office transaction, as revealed by their complaints, is very limited. It is therefore recommended by most advisers that it is good practice to notify all customers of WHO is holding the data, for WHAT it is likely to be used, and to WHOM it is likely to be disclosed, even if the use of the data is obvious. "Data Subjects" are entitled to opt out of their details being recorded.

5.6 The Data Protection Registrar interprets the requirement that "the information to be contained in personal data shall be obtained...fairly..." as to mean that the customer should be told before the data is logged, and given the 'opt-out' opportunity. Box Office staff believe that this is impossible, and compliance with the Act, and the
definition of what is "personal data" in this context, has not been tested. The Data Protection Registrar recognises the difficulties of advising customers in busy Box Offices or during telephone calls, but still expects customers to be notified and given the opt-out opportunity.

5.7 The Arts Council commissioned a report into data protection issues for arts organisations, and the clear recommendation was that no matter how the data is collected for marketing - whether through the post, by telephone or personally - that a statement of notification of WHO is holding the data, for WHAT it is likely to be used, and to WHOM it is likely to be disclosed, must be used and an opt-out clause given. For the Box Office it is recognised that this may not happen during the transaction but that instead the details will be enclosed with the tickets, ideally printed on the tickets. **This means that the details collected on a customer ought not to be used until they make a second purchase.**

5.8 The European Community is considering further data protection regulations and the harmonisation of the rules in different countries, many of which are more strict than the British Act, including the use of 'opt-in' instead of 'opt-out'. Some venues see an advantage in the proposed 'opt-in' situation, where customers are assumed not to want their details to be kept unless they indicate positively. This means that whenever possible customers would be notified during the transaction in order to obtain their consent, and only if this was impossible at the time would they be given the WHO, WHAT, WHOM notification together with a form to return to opt-in. Venues can use their mailing list preference questionnaires as the opt-in mechanism.
Obvious or Non-Obvious?

5.9 The Data Protection Registrar suggests that "obvious" uses of data would normally include marketing activities specifically concerning the arts organisation holding the information. According to the Registrar, "non-obvious" uses would include giving, lending, or hiring the information to any other organisation or third party. It is clearly good practice by venues to reassure customers that the data from the Box Office will only be used to make sure that they receive marketing information appropriate to them.

5.10 However, the relationship between venues and promoters complicates this. It is important to look at this from the customer’s point of view. There are complaints to the Registrar because customers have not realised that in attending one venue in a group that their details would be available to all the group members; or, that the promoter (unknown and virtually invisible to the customer) would like the venue have the details; or, that the touring company would have the details as well as the venue. Because the different "Data Users" may be registered differently, in order to use the data in different ways, customers must be notified and given the chance to opt-in at the time and point of collection.

5.11 Inappropriate and "non-obvious" use of data obtained on customers from their Box Office transactions is unacceptable to many people. In most circumstances in Britain the use of Box Office data by third parties is in breach of the Data Protection Act, unless the "Data User" has specifically registered for this. Many customers dislike their data being transferred to third parties. Most venues do not appear to have registered for
this. Data on "opted-out" customers should be suppressed rather than deleted to avoid it being added again later. Clearly, data protection issues pose a challenge to the effective use of captured data unless venues comply with the legal requirements.
Review

1. How is your venue registered?
2. What is your relationship with other organisations which may have access to your data, such as promoters, companies, consortium members?
3. How do you give customers the WHO, WHAT, WHOM notification?
4. How do you enable customers to opt-out/opt-in?
5. What is your Code of Practice for Data Protection?

Action Plan

6. Agree code of practice and category of registration with other "data users"
7. Amend registration
8. Train staff in giving customers at the counter the notification of WHO, WHAT, WHOM and the offer of opt-in/opt-out
9. Prepare notification of WHO, WHAT, WHOM for printing on ticket stock
10. Prepare a form for sending with tickets to notify customers of WHO, WHAT, WHOM and offer opt-in/opt-out (could be combined with mailing list preference questionnaire; could use Freepost reply service).
Section Three

Managing the Resource
Managing the Resource

Key Questions:

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Can statistics help us understand the data? 114

Is there an easy way to handle this analysis? 133
6. Expanding the Horizons

6.0 This Manual has identified that a substantial amount of information can be collected and compiled to provide detailed customer records, primarily from contact with customers during transactions. This information is a powerful resource for marketing on its own. However, its usefulness will depend on two key factors:

- how the data can be expanded and comparisons made with other data
- how the data can be manipulated and interpreted

This section deals with the expansion of the data and its comparison with other sources.

6.1 The information which could be built into a customer record can come from a variety of sources. Data will not come exclusively from the simple ticket purchase transaction. In practice there can be five or more sources:

- **captured data** is usually data recorded automatically by the system as an integral part of the processing of every transaction - for example name and address, credit card type and number, details of event attended, all keyed in by the operator as part of the transaction.

- **collected data** is added when the customer is asked for additional information, such as:- how they found out about an event, did they
respond to a specific advertisement or campaign? There is a tight limit on how much can be asked without affecting customer relations.

- **observed data** is added when the operator, either at the time of the transaction or later, feeds in additional information about the customer from observation - for example the age of the customer or the buyer type (e.g., family); or it could be simply noting that this purchase is a response to a specific marketing campaign. Observation here means literally what the operator can interpret from seeing the customer or listening to them.

- **supplementary data** is either added to individual records by the operator from sources such as mailing list preference questionnaires or from file data to check the post town, postcode and phone numbers, or to add profiling data such as CACI's ACORN (A Classification of Residential Neighbourhoods\(^{4}\)) of which extensive use has been made by arts organisations and the Arts Council of Great Britain) or CCN Marketing's 'Mosaic'\(^{13}\). The use of this data will be affected by copyright and license agreements.

- **model data** is not about individual customers but about specific market segments or the market as a whole. It can be added to the database to provide comparative data for analysing market penetration and frequency of attendance from for example the Target Group Index\(^{14}\). Again, the use of this data will be affected by copyright and license agreements.
6.2 In Chapter 4 in Section Two it has been suggested that in practice, data can be captured, collected or observed from almost 100% of customers. This is the primary source of useful and useable information. But the ability to add supplementary data and to enable the use of model data can transform the ways in which the data is interpreted, manipulated and conveyed. The mapping of data, comparison of market penetration, analysis of types of customers, depends on supplements to the information in customer records.

Supplementary Data

6.3 The most basic supplementary data is in files such as the Postcode Address File\(^{15}\) and Phone Disk\(^{16}\), both of which are now available on Compact Disc (CD). These simply contain all the addresses of every postal delivery point and all the telephone numbers of every connected address in Britain. When these were only available on tape they were so large as to prevent all but main frame computers from using them - the postcode address file, for example, occupies 37 high density 2,400feet long computer tapes. In practice therefore, most users purchased selected geographical areas. However, the introduction of CD as a compressed form of 'Read Only Memory' (ROM) for computers has made the complete file accessible to any user of an IBM compatible computer (within certain minimum specifications) with a CD ROM reader, but at a high recurrent price (though potentially affordable by marketing consortia).

Postcode Address File

6.4 The Postcode Address File is a centrally stored Royal Mail database of every address in
Britain to which mail is delivered, together with the postcode. Continuously updated, it records about 24 million addresses and their postcodes. It contains names, but normally only those of 'businesses'. The most common use of the basic address and postcode data is to look-up, verify and update addresses and postcodes when collected. However, the Postcode Address File also contains important additional information:

- the British or Irish map grid reference for each postcode, essential for plotting customer locations on maps
- the Mailsort Standard Selection \(^{(17)}\) code, which if used to sort mailings above certain minimum sizes obtains Royal Mail discounts
- the local authority Ward codes and National Health Service area code, enabling records to be sorted using local authority and constituency boundaries
- the user category (residential, non-residential, or large - more than 25 items of mail per day) which enables households to be identified
- the number of delivery points in each postcode, essential for campaign planning purposes, such as door to door deliveries

6.5 In practice, the Postcode Address File (PAF) is available as a series of products, some of which inter-link, and which have different uses. While the cost of some of these is very high, especially on tape, on CD the cost is relatively modest for the complete information:- the first year cost is £2125 and £1250 thereafter. The PAF on CD also comes with retrieval software and selections from the data can be copied onto other computer storage media. This is a very powerful resource, regularly updated.
6.6 The PAF on CD is therefore a very effective way of adding data to customer records, verifying and updating them, enabling them to be mapped, and giving access to useful and cost saving sorting and campaign planning mechanisms. However, importing this data, reading it off CD and translating it into usable form on the computerised Box Office system will involve consultation with the system supplier. Some suppliers have investigated this as an option. Some are considering adopting the Royal Mail Rapid Address Input System \(^{18}\). In every case there will be hardware and software requirements. From the point of view of Box Office staff, the most useful attribute of the incorporation of the PAF will be that if they ask customers to give just their name and postcode then it will be possible for the computerised system to look-up the address details, and only the house number or building name need be added.

**Phone Disk**

6.7 Similar to the PAF on CD, the 103 "white page" telephone directories for the whole of Britain are now available on compact disc, containing about 17 million telephone numbers and subscriber details. However, because this contains both names and addresses as well as the telephone numbers, there are tight Data Protection restrictions on its use. Essentially, it can only be used as a "Directory", to look up the telephone numbers of one name at a time, and automated extraction of the data is \textbf{not} permissible.

6.8 Phone Disc costs £550 + VAT per quarter in 1993, and new discs are issued quarterly. Given the cost of telephone enquiry calls then some people argue that a database user
looking up more than 5,000 telephone numbers per annum - easily achieved by a
telesales operation - could justify this cost. However, most venues using local telephone
directories for their catchment area may think it a high price to pay for such limited
functionality with the cost on top of staff to look-up each entry. The licence agreement
specifically excludes automated look-ups so that telephone numbers could be added to
customer records automatically, and name and address and telephone numbers be
verified and updated. However, this is permitted manually.

National Databases and Profiling Systems

6.9 Proprietary national databases and profiling systems claim distinct advantages over the
simple files of data contained in the PAF on CD or Phone Disc. Similar to these they
draw on massive national volumes of data, but they set out to turn them into
immediately useful information. If this information is then combined with data drawn
from actual customer records, many new opportunities are opened up for analysing,
processing and presenting the details about the customers. And there are specific
marketing tools which are of great use in marketing planning. While there are a
number of different proprietary systems, most experience in Britain of using these for
arts marketing has been with just two: CACI's ACORN (4) and CCN's MOSAIC (13). In
order to illustrate their usefulness, the CACI product range is described here.

CACI's ACORN

6.10 CACI Limited is an international high technology services corporation with three primary
areas of operation: market analysis, information systems, and direct marketing. Their
core product is ACORN - A Classification of Residential Neighbourhoods. This is built by analysing the Census returns for the whole of mainland Britain. The British Government releases this data on the basis of about 130,000 small neighbourhood groupings of about 150 households. Each of these is related to specific postcodes. ACORN is built around the premise that people who live in similar neighbourhoods are likely to have similar behavioural, purchasing and lifestyle habits. The Census contains information on age, gender, make-up of the household, occupation and socio-economic status, number of rooms in the house, car ownership and travel to work. CACI updates ACORN by re-analysing the key component data items every year, producing annual population, age, sex, unemployment and workforce estimates, which the Government itself uses. The classification itself is not updated.

6.11 The ACORN classification built from the 1991 Census divides households up into 54 neighbourhood types which aggregate into 17 groups; these are divided between five categories. This enables each customer record in any database to be segmented into one of 17 or 54 neighbourhood groupings, projecting a picture of their likely housing and lifestyle. This on its own has many marketing applications. However, CACI supplement ACORN with data from the British Market Research Bureau's Target Group Index (TGI)\(^{(14)}\). This is a very large market research database, updated annually, based on monthly self-completion surveys, with an annual sample of about 25,000 adults over 15 across Britain. It is a product and media survey with information on over 400 consumer products (from food to finance), some 3,500 different named brands, leisure activities and arts and entertainment attendances. This enables probable consumer characteristics to be projected onto the ACORN classification. This considerably
strengthens its usefulness for marketing. For the performing arts, ACORN and TGI together have been proved to be a useful indicator of the potential propensity to attend, and the Arts Council has computed the numbers of potential attenders for each artform in each postal district. The computed figures are available to clients of the Arts Councils or the Regional Arts Boards in Britain.

6.12 This combination of the ACORN classification and the TGI is, however, anonymous, still at neighbourhood level, without names and addresses but with postcodes. CACI therefore combine these with the Postcode Address File and the names and addresses from the Electoral Roll to create the ACORN list, with the full names and addresses of 43 million adults aged 18 and over. In Britain the Electoral Roll is updated annually and local authorities sell the lists to marketing companies such as CACI. Because maturing children with the same surnames join household members already on the Electoral Roll, the age of many people on the Roll can be estimated. This gives the ACORN product three distinct but inter-related elements:

- a classification system for customers or household addresses
- a geo-demographic data source at postcode level
- a profiled national name and address database

6.13 There are five main uses of these elements of this kind of proprietary profiling system:

1. **Profiling existing customers.** By segmenting customer records using ACORN/TGI profiles, selections for marketing can be targeted using
information on affluence, location, and lifestyle as well as data from the customer's transactions, in order to produce smaller or 'hotter' lists.

2 **Identifying potential new customers.** From the profiling of existing customers, the ACORN types of people with similar consumer, housing and lifestyle characteristics can be identified, and a selection made of the most likely prospects with the highest potential propensity to attend. The names and addresses of these people can be purchased so they can be approached using direct marketing methods.

3 **Catchment Area Analysis.** The ACORN and TGI data enable the potential arts attendances to be projected for any defined geographical catchment area for a venue on a postcode basis. By comparing this with the actual attendances and the distribution of customers an assessment can be made of market penetration and the effectiveness of current marketing, especially reach and distribution. Indices and maps can be produced to illustrate this.

4 **Planning distribution.** From the profiling of existing customers and the identification of potential new customers, and the catchment area analysis, geographical decisions can be made on a postcode basis so the distribution of publicity can be planned, either to concentrate on areas with the highest current response and propensity, or to target new areas with a low response at present. This could involve decisions on poster display, door-
to-door distribution and media-buying. Maps and marked-up street directories can be produced to help implement this.

5 **Planning direct marketing.** From the above, decisions can be made on which customers or prospects to target with which products, and the appropriate marketing methodology chosen to suit them, and the content of the marketing package tailored to their projected circumstances, based on ACORN/TGI information. By combining this with data from transactions, campaigns can be planned to increase the frequency of attendance and/or the spend per head of groups of customers, as well as campaigns to recruit new customers, with a projected frequency of attendance and value of sales.

6.14 Further information on how to work with the data and the proprietary systems in order to make use of these elements in marketing is contained in Section 4 Chapters 8, 9 & 10. There are however some further product developments from both CACI and CCN which add to the potential, especially for direct marketing, but for which the effectiveness in arts marketing is as yet not fully evaluated.

**CACI's MONICA**

6.15 Age is seen as one of the most important discriminators in a successful direct marketing campaign. The vocabulary of customers is different according to age, as well as the obvious differences in interests and lifestyles, and this should affect the character and in
particular the copywriting of any direct marketing approach to them. Age has already been identified as an important piece of information to add into customer records (Chapter 4 page 59). However, when seeking to approach potential customers there are no sources of specific age information about individuals, which means that direct marketing cannot easily be tailored to the age of the prospects. CACI's MONICA offers a system which projects the likely age of customers in four bands:

- Youngest: 18-24
- Maturing: 25-44
- Mature family: 45-64
- Retired: 65+

6.16 MONICA combines the ACORN classification (which incorporates the Census data) with an analysis of the Electoral Roll based on first names. CACI have identified 13,000 different first names which can be classified according to gender and claims that 75% of the British population have first names which are a good indicator of age. Using the make-up of the household and the combinations of names in the household, it is claimed that MONICA predicts the age range of customers with a high degree of accuracy.

6.17 To use MONICA, existing customer records are extracted and sent to CACI for age profiling. The age profiles are then imported into a field in the customer records. Together with age information collected by other means, this provides a potentially accurate segmentation into age bands of existing customers. However, it would also be
cost effective to use it when purchasing names and addresses from CACI. This would reduce in size the list for a direct marketing campaign to potential customers, in order to ensure that a targeted and tailored marketing package was only received by appropriate prospects.

**CACI's ACORN Lifestyles**

6.18 The ACORN Lifestyles List brings all the CACI products together into one segmented list to enable targeting based on the combination of ACORN, the age of customers, and household composition. This can be used for profiling existing customer records, as explained for MONICA above, but this is likely to be most useful if this done as part of the process of identifying the characteristics of prospective customers, to make cost effective the purchasing of names and addresses from CACI - the Lifestyles List should offer the 'hottest' prospects.

**CACI's ARTS*ACORN**

6.19 In 1993 CACI is collaborating with arts organisations which have computerised Box Office systems in the hope of creating a new ACORN classification system for the arts. ARTS*ACORN will be drawn from the 1991 Census and from information on arts attendances linked to the postcodes of customers. This will have significant advantages over the existing ACORN/TGI classification if enough venues contribute their data to the new classification to ensure that it is reliably representative across Britain:
• Being based on attendances at actual venues it will project the arts activity at a local level.
• Drawn from actual customer purchasing patterns it could predict the propensity to attend at postcode level - groups of about 15 households instead of the neighbourhood groupings of about 150 households.
• Using information on frequency of attendance and the kind of events attended it will enable customers to be segmented on these variables in relation to their housing and lifestyle characteristics
• These three above, together with the ACORN List, should provide the most sophisticated targeting system for identifying potential customers.

6.20 However, the most significant advantage for most arts organisations will be that CACI will provide this free of charge to those Box Offices which collaborate in building the system by donating details of customer postcodes and their arts attendances. The Box Offices will receive back the appropriate postcode file with the classification encoded, so new customers will be automatically classified as they are added to the customer records. The Data Protection Registrar has confirmed that there are no Data Protection issues involved, provided participating arts organisations are correctly registered under the Data Protection Act (6). Most computerised Box Office system suppliers have agreed to collaborate in preparing the necessary software routines to extract the data required by CACI to build ARTS*ACORN, and to enable the encoded postcode file to be added to their systems.
CACI's List Cleaning Services

6.21 One of the challenges of running a massive British database is the need to keep the lists clean and up to date, especially for deaths and for people who have elected not to receive any direct mail under the Mailing Preference Service. CACI screen their lists monthly for gone-aways and deaths, quarterly for the Mailing Preference Service and the PAF, and annually against the Electoral Roll. This list cleaning service is offered for independent lists, so that customer records can be compared with the ACORN list to be cleaned, verified and updated.

CCN's MOSAIC

6.22 While CACI's ACORN is the proprietary classification system of which there is most experience for arts marketing, there are other systems. Some interest has been shown in CCN's MOSAIC (13), the principal competitor. This was designed by the inventor of CACI's ACORN, Richard Webber, and claims certain advantages. However, it is not clear whether these are significant in practice.

6.23 CCN's MOSAIC uses the Census as the primary source, but this constitutes only 46% of the data used in building the classification, because it also includes data from consumer credit databases, county court judgements, mail order purchases, market research interviews, car registrations and other personal registers as well as the Electoral Roll and the PAF. On this basis over 60 different variables are used to define 58 different MOSAIC clusters, with 10 groupings of these clusters. These clusters are built on the basis of groups of about 15 households (compared with ACORN's 150 households) and
applied on the basis of postcodes. As the Census data is not available for groupings of less than 150 households, this suggests that classification below this level relies on the consumer spending and other information. This produces a geo-demographic profiling system capable of projecting customer characteristics; the principal potential advantages over ACORN are that uses more information about consumer spending and segments at the level of groups of 15 households.

6.24 Unfortunately, the type of information about consumer spending, its variability and necessarily limited coverage and comprehensiveness, undermines the ability of MOSAIC to really improve upon ACORN. Independent tests have shown little difference between them in performance for direct marketing, suggesting that they come up with similar answers when used to segment lists for targeting. Those who wish to use a classification system more as a research tool and less as a predictor of potential customer behaviour will see it as a disadvantage that CCN's MOSAIC relies on using such a large proportion of variable data.

6.25 Similar to CACI, CCN offer a family of MOSAIC related products which enable their profiling and classification systems to be used to assist with marketing in many different ways.

6.26 To use these proprietary classification and geo-demographic systems, it is necessary to match customer records with their national databases. Essentially, this kind of profiling is rarely done 'live' but is usually batch processed, either by extracting the customer names and addresses and sending these to be processed by the proprietor of the
classification, or by profiling the records from encoding information purchased from the proprietor. Concentrated directory type files can be imported to enable the addition of the encoding information to the system so that customer records will be coded automatically. This can be expensive, though the data is very useful and cost effective.

6.27 By whatever means the customer data is processed, these classifications are keys to opening up opportunities to profile customers for marketing purposes. They also give relatively easy access to mapping and market analysis systems.

**Proprietary Mapping and Market Analysis Systems**

6.28 All the proprietary geo-demographic classification and customer profiling systems offer mapping and market analysis packages to go with their systems. For larger businesses these are sold as personal computer based desk top packages so that data extracted from customer records in the Box Office system could be imported and then compared with national data and mapped and analysed in a variety of ways. These are relatively expensive, though they offer very sophisticated ways of presenting and analysing the market place. They of course rely on their proprietary geo-demographic systems as the key to any analysis. Using postcode geography and 'drive-times' from a postcode location they offer many different options for looking at the catchment area. Executive Information Systems (EIS) such as MARKzMAN \(^{(19)}\) are now offering a competitive alternative (see page 133).

6.29 While there are clear advantages in such comprehensive stand-alone systems, the
volume of data in computerised Box Office systems, and the close link with constantly changing ticketing history, suggests that there is a need for simpler solutions at lower cost, which will work directly with computerised Box Office systems. While the proprietary classifications have their advantages, a considerable amount of market analysis is possible using other data, such as the Target Group Index, which ACORN uses to supplement its geo-demographic system.

**Target Group Index (TGI)**

6.30 The British Market Research Bureau's **Target Group Index (TGI)** \(^{(14)}\), as explained above, is a very large market research database, updated annually, based on monthly self-completion surveys, with an annual sample of about 25,000 adults aged over 15 across Britain. It is a product and media survey with information on over 400 consumer products (from food to finance) and some 3,500 different named brands. Since April 1986 the TGI has collected information about arts attendances alongside information on other leisure and recreation activities.

6.31 The most significant feature of the TGI is its single source nature. For example, it is possible to relate information on theatre attenders to all other information obtained in the survey, including the products people buy or use; some of the activities in which they engage; their readership of newspapers and magazines; their exposure to radio, television and other advertising media. This turns the TGI into important "model data", enabling us to understand the market place as a whole and compare the snapshot of details from the customer records of a venue with the bigger picture.
6.32 The Arts Council has made this process simpler for arts organisations in receipt of financial support from the Arts Councils or the Regional Arts Boards in Britain. The Arts Council produces for them an annual digest of statistics from the TGI complete with detailed analysis tables (available to clients of the Arts Councils and the regional Arts Boards). This is supplemented by a separate digest with analysis tables based on the eight English standard regions and Scotland and Wales; since 1992 this has been extended by aggregating the data for two years to improve the reliability of the data by increasing the sizes of the samples in each region and country. Where regions appear to have similar characteristics these also have been aggregated again to create larger samples. The figures for Greater London are also stripped out of some tables so that the picture without the "London effect" can be seen.

6.33 The Arts Council's digests from the TGI are therefore powerful tools in helping understand and interpret customer behaviour. Arts attendances are analysed in relation to the following key factors:

- Gender
- Age
- Social Grade
- Age of completing full-time education
- Annual Household Income
- ACORN type
- Readership of National Daily Newspapers
- Readership of Sunday Newspapers
- Readership of Regional Newspapers
In addition the Arts Council's detailed analysis extends to cover:

- audience overlap between artforms, including cinema and pop/rock concerts
- frequency of attendance for different artforms
- audience profile for different artforms using age, gender and social grade
- trends in frequency of attendance

6.34 In order to add Target Group Index data it is necessary to set up 'Tables' in the database to hold the information, which must then be typed or scanned in. The use of the data in this way is affected by copyright and license agreements. The key piece of data here is the postcode which is effectively used as the index to access figures for the numbers of attenders likely to be found in the population as a whole for different artforms. One computerised Box Office system is pre-configured by the supplier to hold the TGI data and use it in a number of market analysis calculations (20).

6.35 In order to map the Box Office data and any market analysis derived from the TGI data, additional software packages are required. The postcode is always the key to using these. Software packages are already available offering mapping, statistical analysis, graphing and presentation tools, and some computerised Box Office system suppliers offer these as optional extras. These packages will always involve the preparation of a set of data in the Box Office system itself. This data set is then either seamlessly transferred into the package or exported to another computer for processing. The processing and management of the data is covered in the next Chapter.
Review

1. Which of the five methods of acquiring data are currently in use and which ones provide opportunities to add data to supplement transaction records?
2. Would it be useful to add either the Postcode Address File or to obtain the Phone Disk for your scale of operation. Does your system allow the addition of the Postcode Address File?
3. Do the proprietary classification systems and their specialist services offer additional benefits to your operation?
4. Have you obtained, if eligible, the Target Group Index data for your catchment area from the Arts Council?
5. Does your system enable the addition of TGI data or will this require software extensions from your system supplier?
6. Will a mapping package be a useful tool for analysis and presentation? Does your system supplier offer a system software extension or is it necessary to find a compatible package or to use the services of one of the proprietary classification systems?

Action Plan

7. In the light of the above, re-review the routines and drills for data collection (Chapters 3 & 4) and introduce appropriate procedures with the staff.
8. Obtain quotations as appropriate for system extensions and/or proprietary classification systems and services and decide on implementation.
9. Implement the addition of Target Group Index data as appropriate to your system
10. Obtain quotations as appropriate for mapping packages and decide on implementation
7. **Processing the information**

7.0 The first six chapters of this Manual have concentrated on collecting and compiling useful information for customer records. The previous Chapter has reviewed how the addition of supplementary data, especially from proprietary profiling systems, can expand the horizons of the computerised Box Office system database. But there are now two perennial problems which face anyone with large volumes of apparently useful data:

- we know a lot of facts, do we understand them?

- we see a lot of data, can we interpret it? Are the results meaningful?

These two problems are in practice compounded by a third:

- we've interpreted the data, we understand the facts, but how do we use them?

7.1 This Chapter explores the ways in which the data can be processed so that it can be interpreted, its relevance can be understood, its value conveyed. This will involve looking at statistics and their illustration and analysis. Those readers uncomfortable with mathematics may think this Chapter daunting. However, a basic review, in words, is an essential foundation to the exploration of specific marketing applications in
Section Four. Software analysis packages are available to do the work described here.

7.2 Even for comparatively small collections of data, it is often not a helpful way of conveying information to provide a full and detailed picture. Minute detail is often not essential and actually prevents us from "seeing the wood for the trees". It is often most helpful to represent a mass of data by just one figure. For example, the Arts Council uses ticket yield as a performance indicator, it being the average amount paid for each ticket sold by a venue. This figure can easily be misleading. The average is often referred to by statisticians as the mean, though there are two other different and useful ways to define the average and to measure 'central tendency':- the mode and the median. Most Box Office data cannot be summed up reliably in one figure.

The Mean

7.3 The mean is found by adding together all the figures in a list and dividing the total by the number of figures in that list. This is said to be representative of all the figures in the list, so the extremes - the largest and smallest - will affect the result as well as the most frequently occurring figures. An obvious example of this is the inclusion of group or party bookings in calculations of the mean number of tickets purchased by customers. In the example over leaf, taking a list of just 11 transactions, the average number of tickets purchased is 3.5, inflated by the one transaction for 12 tickets.

The Mode

7.4 The mode or modal value is the most frequently occurring figure in the list, sometimes
referred to as the norm. In the example over leaf, the number of tickets most frequently purchased from the Box Office is 2.

The Median

7.5 The median is the middle value once the list has been put into ascending order, it represents the halfway value in the distribution of the figures. In this example, 3

<table>
<thead>
<tr>
<th>Mean</th>
<th>Mode</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>12</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>12</td>
</tr>
</tbody>
</table>

To calculate the average or mean, divide the total of the list by the number of items in the list: 

39 / 11 = 3.5

To calculate the mode, find the most frequently occurring number in the list: 

= 2

To calculate the median, put the list into ascending order of magnitude and find the middle value (half way down the list): 

= 3
7.6 These three calculations of the "average" have given three different results, the mean inflated by the extreme values in the list, the mode unaffected by this, and the median representing the middle value, also unaffected by the extreme values. For the purposes of calculating the likely number of tickets sold in the majority of Box Office customer's transactions, the mode is here likely to be most accurate; however, the mode can also be meaningless if some of the values occur the same number of times in the list.

7.7 Statisticians recommend the median because it is always between the mean and the mode, not as highly influenced by the frequency of occurrence of a single value as the mode, nor as highly influenced by extreme values as the mean. Because computerised databases can carry out these calculations quickly and easily, it is usually safest to do all three in order to be able to compare the results. For many calculations and interpretations of data, this problem will be repeated - how relevant is the figure we have calculated: how much does it truly represent the body of Box Office data?

**Range and Dispersion**

7.8 For a single list of data, the relevance of the mean, mode or median cannot be identified unless we know the range - the largest and smallest values - and the dispersion - the distribution of the values - of the data in the list. In the previous example, the range is clearly 11, because the largest transaction was 12 tickets and the smallest 1. However, this is less important than the dispersion. A common measure of dispersion is to identify the inter-quartile range: put simply, the values in a list are put in ascending order and the list divided into four - in the middle will be the median, and
the inter-quartile range is the difference between the highest value in the first quarter of the list and the highest value in the third quarter of the list. Using the same example as before, this shows that half of the transactions ranged from 2 to 4 tickets. Taken with the median of 3 and the mode of 2, this confirms that 3.5 as the mean transaction size is misleading.

<table>
<thead>
<tr>
<th>Range and Inter-quartile Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>2 ——  First quartile</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3 ——  Second quartile (median)</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4 ——  Third quartile</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>12</td>
</tr>
</tbody>
</table>

Put the list into ascending order of magnitude. To calculate the range subtract the smallest figure from the largest figure $12 - 1 = 11$.

To calculate the inter-quartile range divide the list into four: subtract the highest value in the first quartile from the highest value in the third quartile $4 - 2 = 2$.

This possibility of confusing results arises on calculations of ticket sales, especially of ticket yield and distribution of sales by value, frequency of attendances, as well as
transaction size. For marketing purposes, the calculation of the median and the inter-
quartile range will be far more meaningful and helpful than the average because it will
eliminate the effect of the extremes and represent the central values of the data.

**Standard Deviation**

7.9 For heavyweight analysis of dispersion, statisticians reach for the standard deviation. The standard deviation is a measure of variability - how much the data varies. It is useful for understanding the range and distribution of a large set of figures. When the majority of a set of figures covers a small range of values then the standard deviation is will be small; as the range of values spreads out more, the standard deviation becomes larger. This is based on the statistical theorem that at least 75% of the values in a list will fall within plus or minus 2 standard deviations of the mean. (In fact this is a calculation from the variance, which is reached by dividing the sum of the squared distances between the mean and each item in the list, by the total number of items in the list; when the square root of the variance is calculated this gives the standard deviation.) Fortunately, the calculation of the standard deviation is usually offered as a function or operator in many computer databases and spreadsheets.

7.10 The simple way of calculating the standard deviation is shown overleaf, again using the data from the example of a list of transactions. The calculation arrives at a standard deviation of 2.9. This then shows that at least 75% of the transaction sizes fall within the range 1 to 9 tickets: i.e. plus or minus two standard deviations from the mean of 3.5. From this small example, the result is perhaps obvious. Working with large
numbers of transactions, the relevance of the data cannot be seen from a list - it is too long - and it has to be calculated.

**List of values** | **Deviation** | **Deviation Squared**  
--- | --- | ---  
1 | -2.5 | 6.25  
2 | -1.5 | 2.25  
2 | -1.5 | 2.25  
2 | -1.5 | 2.25  
2 | -1.5 | 2.25  
3 | -0.5 | 0.25  
3 | -0.5 | 0.25  
3 | -0.5 | 0.25  
4 | 0.5 | 0.25  
5 | 2.0 | 4.00  
12 | 8.5 | 72.25  
39 | | 92.50

To calculate the average or mean, divide the total of the list by the number of items in the list:  
\[
\frac{39}{11} = 3.5
\]

To calculate the deviation subtract the list values from the mean (many will be negative):  
\[
\text{Deviation} - \text{Mean} = \{\text{Deviation}^2\}
\]

Square the deviation and total them.  
Divide this total by the number of items in the list:  
\[
\frac{92.50}{11} = 8.41
\]

To find the Standard deviation, calculate the square root of this:  
\[
\sqrt{8.41} = 2.9
\]

The standard deviation is a powerful analysis tool to reach an understanding of the
majority of values in a list. Because it is known that for a normal distribution, two thirds of the values will be within one standard deviation of the mean, 95% will be within two standard deviations, and 99% will be within three standard deviations, it is possible to identify whether data is reflecting a significantly different pattern.

Knowledge of the behaviour of the majority of customers is crucial in Box Office data analysis.

7.11 From working with the use of a single figure to analyse a list of items, the mean, mode or median, we have moved to using these with the range (smallest to largest) or interquartile range (range of half the values) to the standard deviation (range of at least 75% of the values). These are very useful when looking at one set of Box Office data. However, it is often necessary to illustrate data so the patterns can be seen and interpreted. For this purpose the data needs to be segmented - divided into groups or classes. Developing the example of the number of tickets sold in transactions, a large list is not helpful if it lists every transaction, because it is too cumbersome. More useful is the number of customers who buy tickets in different sizes of transactions.

**Frequency Distribution**

7.12 A table of Frequency Distribution is obtained simply by deciding the size of each class or segment and then counting the number of values in each segment, typically the number of customers in each segment; its usefulness is increased by calculating the percentages to show the relative frequencies. If the size of each segment is not uniform, and the interval between them not the same, then interpretation of the data is made difficult.
However it is possible to start and end with open classes/segments such as "up to 4" or "more than 12". A large number of segments also hampers interpretation; statisticians usually use no fewer than 6 and no more than 15 segments. While the table illustrated over leaf is useful, its principal purpose is as the data source for graphic presentation.

**Graphic Presentation**

7.13 The use of graphs, charts, and histograms is often recommended to supplement data and improve its presentation. In fact, their primary purpose is to improve interpretation. The method of presentation can be crucial in communicating meaningfully:

<table>
<thead>
<tr>
<th>What</th>
<th>- is the relevant data to process?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- are the key facts to enable interpretation?</td>
</tr>
<tr>
<td>Which</td>
<td>- processes will analyse the data?</td>
</tr>
<tr>
<td></td>
<td>- processes will check on the relevance of the analysis?</td>
</tr>
<tr>
<td>Who</td>
<td>- will see the results and what will be meaningful to them?</td>
</tr>
<tr>
<td></td>
<td>- will need to make calculations from the data?</td>
</tr>
<tr>
<td>How</td>
<td>- will the data best be presented?</td>
</tr>
<tr>
<td></td>
<td>- will the results be seen?</td>
</tr>
<tr>
<td></td>
<td>• written report?</td>
</tr>
<tr>
<td></td>
<td>• slide presentation?</td>
</tr>
</tbody>
</table>
Graphic presentation usually emphasises and clarifies patterns and distributions that are not so readily discernible in tables of figures. It also enables us to estimate some values at a glance. Graphs, charts and histograms give data in a two dimensional picture with

<table>
<thead>
<tr>
<th>Ticket sales segments (Classes)</th>
<th>Number of customers per segment (Frequency)</th>
<th>Relative Frequency Distribution (Proportion)</th>
<th>Number of seats sold per segment</th>
<th>% age of total seats sold per segment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 2</td>
<td>328</td>
<td>42.4%</td>
<td>590</td>
<td>19.1%</td>
</tr>
<tr>
<td>3 to 4</td>
<td>274</td>
<td>35.4%</td>
<td>959</td>
<td>31.1%</td>
</tr>
<tr>
<td>5 to 6</td>
<td>87</td>
<td>11.2%</td>
<td>478</td>
<td>15.5%</td>
</tr>
<tr>
<td>7 to 8</td>
<td>35</td>
<td>4.5%</td>
<td>262</td>
<td>8.5%</td>
</tr>
<tr>
<td>9 to 10</td>
<td>19</td>
<td>2.4%</td>
<td>181</td>
<td>5.9%</td>
</tr>
<tr>
<td>11 to 12</td>
<td>14</td>
<td>1.8%</td>
<td>161</td>
<td>5.2%</td>
</tr>
<tr>
<td>13 to 20</td>
<td>8</td>
<td>1.0%</td>
<td>136</td>
<td>4.4%</td>
</tr>
<tr>
<td>21 to 40</td>
<td>6</td>
<td>0.7%</td>
<td>210</td>
<td>6.8%</td>
</tr>
<tr>
<td>41+</td>
<td>2</td>
<td>0.2%</td>
<td>108</td>
<td>3.5%</td>
</tr>
<tr>
<td>Total 773</td>
<td>100%</td>
<td>3085</td>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>

Note that up to 12 the range in the classes is equal, but then jumps in ad hoc ranges.

To calculate the %ages, divide the number of customers per segment by the total number of customers and multiply by 100.

To calculate the %ages, divide the number of seats sold per segment by the total number of seats sold and multiply by 100.
on the horizontal axis the values of the variable we are measuring - ticket sales, in the example - and on the vertical axis the frequency of the occurrences - number of customers. Histograms (not illustrated here, but similar to bar charts) plot the data as a series of rectangles proportional in height to the frequency of occurrences in each class or segment and proportional in width to the range of the class or segment. The advantage of the histogram is that each rectangle clearly identifies each separate class or segment and its area is proportional to the total number of occurrences, so calculations can be made from them.

Bar Charts

7.14 The bar chart is a simplified version of the histogram with many of its advantages. The first two columns of the Table on the previous page appear in bar chart form as below:
The bars are proportional in height to the frequency of occurrences in each class or segment. The major disadvantage is that the width of the bars is not proportional to the range of the classes or segments, and therefore they need careful interpretation.

7.15 While the previous bar chart looked at the actual number of customers, it is usually most useful to look at the relative frequency of occurrences - in this case the proportion of customers buying tickets in each of the ranges, most easily shown by the percentage of the total. It is preferable to plot on the vertical axis this relative frequency distribution - the percentages in each class or segment - because the two bar charts will then be on the same basis and the shape can be compared. From the bar chart above, only the vertical axis changes, to show the percentage of customers buying the different numbers of tickets instead of the actual number of customers. If comparison is needed of two data sets, then a second set of rectangles or bars can be added with different shading, as shown below. Show A is the 3rd column data in the Table on page 115.
Line graphs

7.16 The alternative way of presenting this Box Office data is as a line graph connecting the mid-points on top of each bar, with a separate line for each set of data. As with the bar chart, the slope of the line will be affected by the range of the data in each class or segment, giving a picture not necessarily in proportion. Statisticians prefer the frequency polygon, in which the data is plotted in proportion, so calculations can be made from them, as in a histogram. However, line graphs are a simpler version. The bar chart converts to a line graph as below.

7.17 Statisticians prefer to plot such graphs with zeros in the classes or segments at each end to allow the graph to reach the horizontal axis at both ends of the frequency distribution. The shape of the curves then enables further interpretation of the data.
Put simply, most curves drawn from data from the natural phenomena of the population as a whole are symmetrical; curves of economic or social data are usually asymmetrical, because they are affected by circumstances other than chance.

Understanding Data

7.18 In the example illustrated in the bar charts and line graphs above, in order to retain the proportionality of the percentage of customers, there is a problem with the graphic presentation: the party or group bookers appear to be insignificant. Yet the number of seats they purchase is a significant proportion of ticket sales. It is important to look at the total number of seats purchased by customers in the different classes or segments to fully understand the data. This kind of problem recurs frequently when interpreting Box Office data - have we looked at the significance of the data from all angles? Are
we sure we have chosen the right graphic presentation to enable us to interpret the data? There is no easy answer to this. For example, much Box Office data about sales requires analysis by volume and value as well as numbers of customers and frequency. To follow the example, we need to plot the proportion (percentage) of seats purchased by customers in the different classes or segments as well as the percentage of customers buying tickets in each class or segment. On both the bar chart and the line graph we can plot the two sets of data and see their relationship:

In this case the complete curve of the line graph shown over leaf gives a more readily interpretable picture. The relative distributions of the numbers of customers and the numbers of seats purchased is discernible.
7.19 There are other useful means of graphically presenting data, though most depend on the picture emerging from the data being visually "obvious". Sometimes it is necessary to try different forms of presentation until one is found which is readily interpretable. Sometimes it is only the general distribution of a single set of data which it is required to identify or show. The percentage of seats purchased by customers and the percentage of customers buying tickets in each class or segment could be shown by two pie charts.

7.20 A pie chart is a circle or "pie" in which each item - the class or segment in our example - occupies a sector or "wedge" of the circle whose area is the same percentage of the total area of the circle as the item it represents is of the whole. They are not able to be statistically accurate because of the minimum wedge that can be graphically illustrated, as shown in the chart of the percentage of customers below. This neatly shows both
the advantages and disadvantages of pie charts:

It is useful to give the dimensions of each wedge, as shown with the percentage of seats sold. The use of "exploded pies" is visually helpful as an aid to interpretation:
Many software analysis and presentation packages offer choices of other ways of illustrating data sets for interpretation. The key test is whether the picture is a realistic one and enables practical interpretation. Even for the relatively small examples used so far in this Chapter, this is not straightforward. The need for clarity and reliability increases when we wish to find the correlation between different pieces of data and their relationship in practice. There are a variety of statistical tests and measures which can help. Most of them are mathematically complex, and beyond the scope of this manual to describe in simple language. Fortunately, they are available as pre-set routines in various statistical analysis packages so that provided the user knows what they are for and how to interpret the results, data can be processed and the results obtained without understanding the algebra.

**Analysis of Variance**

One of the simplest challenges to any statistical interpretation is whether the pattern of occurrences are significant or due only to chance: how and why does the data vary? Suppose the catchment area of a venue is analysed on a postcode and ACORN (4) basis and three equi-distant postcodes with the same ACORN profile produce a 35%, 42% and a 51% penetration of the expected play attenders using Arts Council figures. If this difference is significant then the Marketing Manager will need to take some action. But if the difference is not significant - due solely to chance - there is no need for remedial action. The check on this is the **Chi-Square Test**, usually offered as part of a statistical analysis package which processes cross-tabulations; powerful packages also offer **analysis of variance**, when the significance of more than two variables can be
measured at once. The value of Chi-Square can never be negative, and a value of zero means that the figures in the tables exactly match the predicted figures, and are therefore likely to be a product of chance. In the example above you will appreciate that these variations between the penetration of the postcodes are not by chance.

7.23 Chi-Square tests sometimes involve the quotation of **degrees of freedom**, **significance levels**, and **probability values**. The degrees of freedom are the number of values open to prediction. In the example of the postcode penetration figures then because we have three values to check on then in the Chi-square Test we must predict two of them from one - this is two degrees of freedom. The software analysis package may need this figure in order to process the cross-tabulation. Similarly, significance levels may be needed to pre-set the reliability levels of results.

**Significance Levels and Probability Values**

7.24 These are not indications of relevance. They simply indicate the statistical likelihood of the values occurring. Thus a 1% significance level means that there is only a 1 in 100 chance that 2 different values could have arisen from the same data set, and a 10% significance level means there is a 1 in 10 chance that 2 different values could have arisen from the same data set. Most researchers uses significance levels in the 1 to 10% range, usually 1%. However, while we may choose to work with this level, most software analysis packages will give the probability value after making the calculation: the probability value tells us how unlikely is the value we have observed, expressed as a percentage (usually in a form such as 0.01, which is 1 in 100, which equates to a 1%
significance level). Essentially this tells us whether the results are useful to us.

**Correlation, and Regression**

7.25 Every day marketing managers make decisions based upon predictions of the future and the behaviour of their customers. To make these decisions they forecast either intuitively or on a calculated basis between past experience and future estimates. If the relationship between variables in customer behaviour can be determined, then the decision making process becomes more scientific. Tests like Chi-square tell us if there is a relationship between variables but not what that relationship is. We know it is significant but not how or why? Regression and correlation analysis are based on the relationship or association between two or more variables. They will identify and measure relationships. The known variable(s) are called independent variables, and the dependent variable is the variable we are trying to predict.

7.26 Regression and correlation show relationships but do not prove cause and effect. Regression analysis can be useful in predicting sales from a series of factors about past customer purchasing behaviour. Correlation analysis will help test the accuracy of the prediction. Regression and correlation analysis can also be used to find relationships to help plan direct marketing activity. For example, the Target Group Index \(^{(14)}\) shows information about the overlap of attenders in Britain between artforms and about the frequency of attendance at different artforms, but that is for the population as a whole, and customers could be making their attendances at different venues, perhaps even in different places. So if a venue offers different artforms, has a large database of...
customers, is there a correlation between attendance at more than one artform; is the propensity to attend associated to frequency and/or price?

7.27 Extracting details on all those customers who have attended 'plays' together with details of their frequency of attendance and price paid, and a series of variables such as age, ACORN classification, and then correlating this with their 'contemporary dance' attendance may show that the best prospects to persuade to attend contemporary dance have specific characteristics. Both calculation routines are available in analysis packages, usually using multiple regression and multiple correlation analysis techniques. It is only necessary to load in the raw data which you wish to be analysed.

7.28 Correlation analysis will give us the correlation coefficient which can have a minimum value of -1 and a maximum value of +1. 'Zero' means there is no relationship between the variables, '+1' is positive direct correlation - every change is matched equally, while '-1' is negative inverse correlation - every change is matched in the opposite direction. Most statisticians interpret correlations of +0.7 or more or -0.7 or less as significant degrees of association - this means reasonable marketing predictions could be based on them.

**Segmenting Customers using Multi-Variate Analysis**

7.29 The data held in customer records represents a body of information which may contain unknown relationships and links beyond the obvious. Researchers use the power of computers to search through data, analyse, compare and correlate in order to cluster
customers, find out the significant factors, and discriminate between them. These are the very techniques used on millions of records to build the ACORN classification. But these same techniques can be used to cluster and segment customers on large Box Office databases. Some of the results could be blindingly obvious - a group of houses in the same street cluster on the postcode - but for example do subscribers emerge as having a specific range of identifiable characteristics? Some venues have identified potential subscribers from specific patterns of attendance, ticket price paid, and age, capturing "empty nesters" as their life pattern changes. The potential power of this could be released by Arts*ACORN.

7.30 These techniques need qualified statistical intervention to ensure that only suitable data is used and analysed in appropriate ways. Market research companies usually include such specialists, and have the computer processing power, and can then research on Box Office data without having to conduct any surveys or use samples. Some venues have found it useful to have research conducted on their customer records to reveal patterns and trends\(^{(21)}\). However, trend analysis and the use of indices is a key technique which should be within the scope of the Box Office.

**Trend Analysis and Index Numbers**

7.31 An index number sets out to show how a variable has changed, either over time or in relation to some 'norm'. For example, in Britain figures from the Theatrical Management Association show continuously rising ticket prices, but how much should prices have increased anyway to keep pace with inflation? Research has shown some venues make price increases which not only fail to compensate for inflation but can
reduce the income achieved. Venues often calculate ticket yield as a crude indicator of the movement in earnings, but this needs a clear base if factors such as inflation are not to distort the figure year on year. The use of Index Numbers as indices is essential in trend analysis and to enable meaningful comparisons.

7.32 An index number is calculated by finding the ratio of the current value to a base value, then multiplying by 100 to express the Index, in effect as a percentage. The example which follows is an index of postcode penetration.

7.33 Note that the index number for the base point is always 100. In the example, if the percentages for a particular postcode were identical then the Index would be 100. Any figures above or below 100 represent the percentage penetration using the ACORN/TGI norm which is being achieved in that postcode. Thus in CF1.8 where there are 1212 potential playgoers and only 37 are actually attending, the index shows only a 15% penetration. In direct marketing, for comparison purposes, a penetration rate per 1000 population is usually calculated as well:

The Penetration Rate is calculated by dividing the number of customers in each postcode sector (or other geo-demographic segment) by the number of residents in that sector or segment and dividing by 100.

So if there is a resident population of 93735 and 1378 customers, then the penetration rate is 1.470, which equals 1.47 customers per 1000 residents. See page 144 for an example.
Index numbers are most used in showing changes in over time. Because changes are turned into percentages the proportion of change is readily identifiable. Tracking the

<table>
<thead>
<tr>
<th>Postcode Sector</th>
<th>Potential Playgoers</th>
<th>%age of Potential</th>
<th>Number of Attenders</th>
<th>%age of Attenders</th>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>CF1.1</td>
<td>56</td>
<td>0.07%</td>
<td>10</td>
<td>0.31%</td>
<td>442</td>
</tr>
<tr>
<td>CF1.2</td>
<td>16</td>
<td>0.02%</td>
<td>10</td>
<td>0.31%</td>
<td>550</td>
</tr>
<tr>
<td>CF1.3</td>
<td>227</td>
<td>0.28%</td>
<td>44</td>
<td>1.38%</td>
<td>491</td>
</tr>
<tr>
<td>CF1.5</td>
<td>168</td>
<td>0.21%</td>
<td>21</td>
<td>0.66%</td>
<td>314</td>
</tr>
<tr>
<td>CF1.6</td>
<td>82</td>
<td>0.10%</td>
<td>6</td>
<td>0.19%</td>
<td>190</td>
</tr>
<tr>
<td>CF1.7</td>
<td>1746</td>
<td>2.17%</td>
<td>44</td>
<td>1.38%</td>
<td>64</td>
</tr>
<tr>
<td>CF1.8</td>
<td>1212</td>
<td>1.51%</td>
<td>37</td>
<td>0.22%</td>
<td>15</td>
</tr>
<tr>
<td>CF1.9</td>
<td>1514</td>
<td>1.88%</td>
<td>85</td>
<td>2.66%</td>
<td>142</td>
</tr>
</tbody>
</table>

The table above shows the Potential Playgoers, %age of Potential, Number of Attenders, %age of Attenders, and Index for each Postcode Sector. The Potential Playgoers are calculated from the Arts Council analysis of TGI and ACORN. The %age of Potential is calculated as the number of potential playgoers in the agreed catchment area, divided by the number in each postcode, and multiplied by 100. The Number of Attenders is calculated as the total number of actual attenders from the agreed catchment area, divided by the %age of potential playgoers and multiplied by 100. The Index is calculated as the %age of actual attenders for each postcode, divided by the %age of potential playgoers and multiplied by 100.
number of customers on the database actually buying tickets provides a useful index:

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Purchasing Customers</th>
<th>Index</th>
<th>Chain base Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>1988</td>
<td>8094</td>
<td>100</td>
<td>115</td>
</tr>
<tr>
<td>1989</td>
<td>9288</td>
<td>115</td>
<td>115</td>
</tr>
<tr>
<td>1990</td>
<td>8416</td>
<td>104</td>
<td>91</td>
</tr>
<tr>
<td>1991</td>
<td>9271</td>
<td>114</td>
<td>110</td>
</tr>
<tr>
<td>1992</td>
<td>8233</td>
<td>102</td>
<td>89</td>
</tr>
</tbody>
</table>

The Index is calculated by dividing the number of customers purchasing each year by the base year number (1988=8094) and multiplying by 100. The chain base index uses the previous year instead of the base year: in 1992 8233/9271*100=89

This illustrates how indices can give a clearer picture. The variations in the number of purchasing customers become interpretable when 1989 is shown in proportion as a 15% increase on 1988; the drop in 1992 to near the 1988 figure shows the effect of recession on customer numbers. However the simple index may be less than helpful in a constantly changing situation year on year. The programme of the venue might be changing, the level of subsidy and number of events, the ticket prices and reductions, and so on, perhaps based on the success of marketing in increasing sales:- 1988 may not be an appropriate base year for the index. The chain base index calculates the index from the previous year instead of against a single base year. In the example this means the success of 1989 is used as the base year for looking at 1990, and the poorer result in 1990 is used to compare 1991; the severity of the reduction in 1992 and the
potential impact on the venue is revealed starkly by the chain base index. While this shows the number of purchasing customers it does not reveal the value of their sales.

7.35 The index of sales per annum to typical customers is a useful comparator. This is going to be a composite of frequency of attendance, number of tickets purchased and ticket price paid. From earlier in this Chapter the problem of how to choose the typical customers was explored. Here the mode is most useful to us. First identify the purchasing customers, then in each year the most frequently occurring figure for ticket purchase size, then for those customers purchasing that number of tickets, their number of attendances and total number of tickets purchased and price paid. This enables us to calculate the average price paid per ticket per annum.

7.36 This index is weighted using current year volume against base year prices. The alternative (not shown) is to weight using current year prices against base year volumes. The danger when using indices is that the chosen base for calculation may be the one which shows the result required, for example choosing a poor year as the base to prove a large increase, or a good year to present it as a small increase. Year-on-year calculations prevent this. Re-calculating the example as a Chain Base Index using previous year prices, again the results are different. In this case while the current volume/base year index is rising but slackening in its increase, the chain base index is actually falling. While price paid has been used as a factor in calculating this, it is clearly factors other than price which are affecting the results:
The Base Year Index is calculated by dividing the value of sales in the current year by the value of multiplying current purchases by the average ticket cost in the base year, and multiplying by 100. The Chain Base index uses the previous year instead of the base year.

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Purchasing Customers</th>
<th>Mode</th>
<th>Number purchasing 2 tickets</th>
<th>Total purchases</th>
<th>Value of sales</th>
<th>Average ticket cost</th>
<th>Base year index</th>
<th>Chain base index</th>
</tr>
</thead>
<tbody>
<tr>
<td>1988</td>
<td>8094</td>
<td>2</td>
<td>5215</td>
<td>26075</td>
<td>£156450</td>
<td>£6.00</td>
<td>100</td>
<td>107</td>
</tr>
<tr>
<td>1989</td>
<td>9288</td>
<td>2</td>
<td>6372</td>
<td>34408</td>
<td>£221931</td>
<td>£6.45</td>
<td>107</td>
<td>105</td>
</tr>
<tr>
<td>1990</td>
<td>8416</td>
<td>2</td>
<td>6008</td>
<td>32443</td>
<td>£224505</td>
<td>£6.92</td>
<td>115</td>
<td>107</td>
</tr>
<tr>
<td>1991</td>
<td>9271</td>
<td>2</td>
<td>6459</td>
<td>33586</td>
<td>£244847</td>
<td>£7.29</td>
<td>121</td>
<td>105</td>
</tr>
<tr>
<td>1992</td>
<td>8233</td>
<td>2</td>
<td>5726</td>
<td>26339</td>
<td>£193332</td>
<td>£7.34</td>
<td>122</td>
<td>100</td>
</tr>
</tbody>
</table>

The above example uses indices drawing on actual average price paid. Because other movements are involved, such as the number of purchasing customers in the class or segment and the frequency of attendance, these figures cannot be readily adjusted for inflation. However, whenever using data on prices, these should be compared with what the index would have been if adjusted for inflation year on year.
This short review of statistical methods should have raised expectations of what can be achieved from intelligent processing, manipulation and presentation of the data in Box Office databases. While in some cases it may be necessary to export data to specialist analysis packages, or employ the analysis services of a market research agency, the introduction of Executive Information Systems (EIS) is transforming the data processing capabilities of computerised systems. Already at least one supplier in Britain offers an EIS 'front-end' to collect and analyse data distributed in their Box Office system\(^{(22)}\).

**Executive Information Systems**

EIS works by providing the non-expert user with an 'intelligent' front end which collects, filters, analyses, and presents information from a variety of data sources. Some EIS systems analyse the data and decide intelligently what further analysis is required and how best to present the data. Details of these are reported in the Arts Council's September 1993 update of Michael Prochak's 'computers for arts marketing'\(^{(23)}\).

For example, an EIS such as MARKzMAN\(^{(19)}\) is specifically designed for marketing analysis and the management of customer records, including their use in direct marketing. It pulls in data onto a personal computer from the Box Office computer and other sources and compiles it automatically into a relational database. It comes complete with Tactician, a sales and marketing analysis tool which incorporates mapping and all the detailed data processes described in this chapter. Because of advanced design of the software, it completes complex selections and sorts on hundreds of thousands of records in seconds. It also includes campaign planning and
response analysis routines. This could provide the alternative to the development of integrated Box Office systems. It may mean that older computerised ticketing systems may not need to be replaced to gain access to advanced marketing capabilities, provided the data required for marketing is being collected and retained.

Armed with the techniques to handle the data, the concluding section focuses on the various applications in marketing methodology.
**Review**

1. What are the existing data processing, calculation and presentation facilities on our Box office system?
2. Can we use the existing facilities? Are their other staff who may have skills in data analysis?
3. What data processing and analysis requirements cannot be met from our current system? Which software analysis packages or Executive Information Systems will meet our requirements?
4. Is there sufficient volume of data and potential usefulness for marketing to use a market research company to research and analyse the records?
5. Assess reporting requirements and the use of indices and other measures.

**Action Plan**

6. Plan training of appropriate staff in basic statistical techniques
7. 'Play' with existing data processing, calculation and presentation facilities, experimenting to explore the capabilities and gain familiarity with the systems.
8. Add on either EIS or software analysis packages and repeat 7.
9. Arrange speculative meetings with market research companies to explore market analysis capabilities.
10. Set up reporting routines and standard calculations of indices and other measures.