



Arts Council England, Arts Council Northern Ireland,
Scottish Arts Council & The Arts Council of Wales

Report on the Standard Box Office System Reports Feasibility Study

REVISED

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1. Introduction

1.1 This Report

This is the final draft report on the feasibility study for Standard Box Office System Report as part of the Audience Data UK project. Conclusions and Recommendations are set out at Section 2, summarising the study, followed by an exploration of the key issues to be considered in developing standard reports; a proposed specification for the contents of those standard reports; and the definitions and protocols required to standardize the reports.

Started in Spring 2004, but paused for a year for the work on developing the Definitions and Protocols, after discussion at the Steering Group meeting and subsequent conversation with Phil Cave at Arts Council: England, it was decided to move forwards to conclusions and recommendations now, but, once agreed, it will be appropriate to return to the external advisers and Box Office system suppliers for further consultation on implementation.

1.2 Objectives

The project brief issued made the main objectives of the study clear:

- Investigate the feasibility of developing a standard suite of box office data reports across the major UK ticketing suppliers;
- Identify and specify the information required for the reports;
- Work with key users and ticketing system suppliers, in the preparation of a framework for rolling out a system that can be accessed by arts organisations.

Please note that while this report refers primarily to ticketed events and venues with Box Offices, the issues are the same for collecting, processing and reporting on data for galleries and museums, and much of the content should be deemed applicable to both ticketed and non-ticketed events. As a matter of principle, specific computerised Box Office ticketing and marketing systems or their suppliers are not named in this document. Third party suppliers are named as appropriate.

1.3 Research & Consultation

Existing documentation has been reviewed to avoid repeating detailed work that has been completed and is up to date and to draw together the body of knowledge that

already exists to inform the methodology. This includes the views of users identified as part of *The Thirst for Knowledge* report and the work that has been undertaken by audiences.com through www.ticketing.org.uk.

It is clear that there is a danger of re-inventing the wheel in some areas, and many practitioners have been grappling with the issues inherent in this study for some time. Strong and diverging views appear to exist on some specific points and it is useful that the parallel work on Definitions and Protocols should illuminate these and seek solutions.

Consultation for the Standard Reports study identified that many in the constituency are clear what the issues are, expect clear guidance from the consultants working on the project, and are seeking early results. However, the scale of the problem means there are unlikely to be quick wins, except in so far as new technological solutions “leap-frog” forward.

It is vitally important to appreciate that there were and continue to be three constituencies to be consulted with and engaged with for this project:

1. Box Office System and third party suppliers
2. System users actively using their systems for marketing
3. System users not yet actively using their systems for marketing beyond mailing lists

The system suppliers consulted during this study estimated that more than 80% of their system users fell into the third category.

2. Conclusions & Recommendations

The programme of work that forms Audience Data UK is overseen by a Steering Group whose membership is made up of representatives of each of the four UK Arts Councils and individuals working for a range of arts organisations. The Steering Group's responses to the recommendations made in this section of the report are contained in boxes such as this to distinguish them from the main report.

This section summarises the conclusions and recommendations, drawing on the rest of this document (and therefore making some points repeated later). It concludes with an itemised Action Plan.

2.1 Conclusions

2.1.1 Feasibility Study?

Although never acted on, Roger Tomlinson (unpaid) for the Theatrical Management Association had previously secured in 1997/98 the agreement of all the then system suppliers to develop standard reports to form Box Office returns and unified information in relation to Arts Council and City University data collection requirements to compile attendance information for the Theatrical Management Association and the Arts Council.

Technology has certainly moved on since that project and the approach required now may be different. However, it is clear that **“feasible” in this sense is not whether it is technically feasible, but whether suppliers would create, and the arts and entertainment industry implement, what is required.**

The appropriateness of any solutions turns on the willingness of the users to adopt the practices required, and the willingness of the system suppliers' to deliver the standard report solutions, if that is what is required.

2.1.2 Not feasible?

The conventional outcome of this kind of feasibility study is to say whether or not something can go forward to be implemented on a practical basis. To say that something is 'Not Feasible' usually means it is not practical to proceed. In this case the conclusion is that in the terms of the original conception of 'Standard Reports', these are probably not feasible because of the complexity of the working environment they would have to be developed in. However, that does not mean in

this case that it is not feasible to proceed, but **progress and implementation may be very different than originally envisaged, because of the circumstances prevailing in 2005 and into the future.**

2.2 Recommendations

2.2.1 Setting a 'gold standard'

Working with those people in venues who believe they understand what is required, then sharing the results of this with suppliers, initially appeared to show that people thought there was a readily identifiable suite of reports that would meet the needs, with a defined specification so that suppliers (or in some cases users) could set up any report to meet the agreed requirements. Further investigation and exploration revealed many issues which made this far from straightforward.

Working with Stephen Cashman on the separately published Definitions and Protocols, we found there were many areas where terms were not necessarily widely accepted in usage, understanding and interpretation. And we found systems which might appear to use the same terms but did not necessarily configure fields or compile data for them in the same way, or permitted users a wide variation in the ways they could configure them.

Users had acquired a "need" for specific reports configured in the way the system they used produced them, and there was not an easy consensus on "standard" reports. Some users had asked suppliers to change the appearance of printed reports so they matched the appearance of ones from other systems, though content was theoretically the same. Some believed the consultants should simply define the 'standard' and 'format' so people could follow it.

It is therefore recommended that **a different approach is followed at this stage. Users in venues need to become familiar with and adopt in practice the Definitions and Protocols. The proposed suite of 'standard reports' and their specification needs to be circulated and shared. Training inputs will be required on working with the Standard Reports, Definitions and Protocols.**

At this stage, **suppliers need to be shown the 'standard reports' specification** with the Definitions and Protocols and will need advice on the implications for their systems. Some may be unwilling to proceed without payment since some charge out all development time, and, anyway, there will be pressure on the available development time. Since, for some, implementing this will raise issues of both

system architecture, database configuration and perhaps affect backwards compatibility, there are likely to be issues about implementation. This means that **‘standard reports’ are unlikely to be produced instantly on a standard basis**, different suppliers may respond in different ways, and a consensus around practical implementation may take longer to emerge.

It will be **important however for venues and organisations seeking tenders for new ticketing and marketing systems to specify the ‘standard reports’ as a requirement of the ‘fitness-for-purpose’ of systems offered by suppliers**. This should encourage suppliers to meet the users’ needs and help in commissioning production of the ‘standard reports’.

It is recommended therefore that a longer term view is taken, setting a ‘gold standard’ to be understood and accepted. Implementation may take various routes and lead to different solutions to producing the ‘standard reports’.

2.2.2 External solutions

It is clear that users in venues and many others in the arts and entertainment industry look to the suppliers to meet their needs by supplying ‘fit-for-purpose’ systems.

Everyone who relies in their work on information acquired from systems seems to expect ‘standard reports’ in recognisable formats, and expects the suppliers to implement these.

Notwithstanding this, **more and more users are recognising that their need for a solution *now* means that other options are investigated**. ‘Data Crunch’, developed by Arts Marketing Warwickshire, pioneered the approach of extracting data from Box Office systems, validating the integrity of the source data from inside the system and, if necessary, converting and/or processing it appropriately. Since the latter’s demise, **Vital Statistics from Purple Seven has proved a next-generation solution, and many users can now extract data from systems and process it and view the results on a standard basis**. This still causes problems for some users if the data was not captured or configured appropriately in the first place; systems can only go so far in dealing with human error.

There appear to be two schools of thought here. One argues that “if it ain’t broke, don’t fix it” and that the availability of a solution which appears to have the working cooperation of the system suppliers should be the chosen vehicle for implementing the ‘standard reports’. Some system suppliers share this view and Purple Seven have expressed a willingness to implement what is required, not least because it has

relevance not just in the UK but internationally, in terms of addressing the incompatibilities in the available ticketing and marketing systems.

Others argue that we should never be reliant on a single source solution, especially if that is not in the public domain. Given this reservation it seems appropriate to first establish an open protocol for transfer of data out of ticketing and marketing systems to other systems, since in essence this achieves the first key steps in standardisation. However, the devil is in the detail and it is in the validating of the integrity of the source data inside the system and, if necessary, converting and/or processing it appropriately, which makes it 'standard'.

There appears too to be a technical argument against attempting to establish such a protocol, since the approach now in designing many interfaces is to aggressively extract all the raw data from a database. The issue which needs addressing, and is at the heart of whether 'standard reports' are feasible, is in the nature of the data input. The argument runs that in most cases it is always easier to re-compile data in the new database than to take the complicated steps to get the data emerging from each user on a standard basis.

We have discussed with Purple Seven the option of seeking the release by them of a version of their Data Extraction engine into the public domain by some means, so that any standard reports processing solution available could rely on a standard extraction and conversion process. They have confirmed their willingness both to discuss this and to collaborate to achieve this if a means could be found. Rather than affect this by any action at this stage, **we recommend this option for further investigation.**

In many cases, however, for the level of data integrity necessary in their day to day work, many users need not seek specialist extractions. **It is recommended that all trainers and all system suppliers encourage the export of data from systems. Users need to understand their opportunities for more flexible processing using existing software solutions** such as such as Excel and Access, and recognise that there may be other commercial database analysis solutions available for them to use.

2.2.3 Taking forwards core reports

It is recommended that, building on the above, implementation would be assisted by selecting, to be written by system suppliers, one or two core reports which have general application as above, but in particular ones which give data for funding body key performance indicators, as well as standard Box Office data

collection initiatives such as that of the City University for the Theatrical Management Association and the Arts Council. It is recommended that the following would test the process:

- Matured sales analysis extraction (2.3.i), set up as: Weekly Box Office matured performance return (City University/TMA model and Arts Councils purposes)
- Sales Report (2.4.ii.), set up as: Advance sales analysis, week on week
- Bookers Summary (2.4.vii), set up to give frequency of attendance.

2.2.4 Guidance on Statistical Validity

It is recommended that guidance is developed on the statistical validity of the data being interrogated for a box office ‘standard report’, taking account of the issues of data capture and data integrity, as well as those of accuracy, etc. raised in this document. **There needs to be an industry standard of acceptable levels of data capture and record completeness.** We can advise on this if required.

2.2.5 Training Needs

It is recommended that training is provided to address the issues of competency and to enable and encourage uniform usage. It is possible to identify three key areas in which training we recommend training is required:

- There is a general need for more training in the set-up and use of box office systems as they stand; this is for both Box Office *and* Marketing staff, and it is essential and fundamental that both are trained and continuity of expertise is sustained in system user organisations. This needs a coordinated and concerted effort by suppliers, ensuring availability and coverage across the UK, working with a body such as the Arts Marketing Association, and should be supported by promulgation through www.ticketing.org.uk.
- Once standard reports have been promulgated, training will be required in how to use them. Perhaps equally importantly, this training must address teaching users in the interpretation of the reports and the implications for the way they undertake marketing; again this needs a coordinated and concerted effort by a body such as the Arts Marketing Association to ensure availability and coverage across the UK.
- For those who cannot afford specialist solutions, much greater flexibility can be achieved in analysing box office data for some uses if ‘raw’ data is extracted

and re-processed using standard products such as Access and Excel. These are very sophisticated software tools, but most potential users would require training in making extractions, exporting and importing data, and using the software effectively. This is a significant gap in industry competence for which training provision is required, and which is unlikely to be sourced from system suppliers, not least because it will require knowledge of other Box Office systems. While commercial solutions are available, these are not tailored to the processing needs of the arts and entertainment industry and it is recommended that specific training is commissioned.

2.3 www.ticketing.org.uk

This website commissioned by the Arts Marketing Association on behalf of the ten management bodies of the arts and entertainment industry in the UK, with the help of the Arts Council, has a potential role in the ADUK project in terms of progressing the sharing of information and promulgating standards. It is therefore referred to in the Action Plan which follows.

ADUK acknowledges the need for increased standards in collecting, storing and analysing data in consistent ways and that this is not, first and foremost, a technological issue. We will support a programme of advocacy and training as suggested

The responsibility for meeting the technical requirements should rest with the system suppliers rather than the users. It should not be necessary for users to have to purchase additional software or associated training in order to meet the requirements of the standard.

Once established, the Arts Councils will insist on the ability to meet or exceed this standard as a condition of funding. This gold standard will cover:

- The list of standard reports as suggested
- Requirements re definitions and protocols for categorising and analysing data
- Facilities for exporting data
- Minimum levels of training support from system suppliers (initial and ongoing)
- Regular reports and quality control issues that supplier will undertake

Target date for launch of the standard is April 2007 with a view to this being updated annually.

2.4 Action Plan

1. Circulate this final Report together with 'Definitions and Protocols' to system suppliers and discuss implementation.

Action by ACT Consultant Services. Complete by end October 2005

ADUK will take responsibility for the circulation of this report and will invite responses from system suppliers within eight weeks of publication.

2. ADUK publish and promulgate Definitions and Protocols, including making available for download on www.ticketing.org.uk

Action by ADUK. October 2005

ADUK will publish this and other reports on its website www.aduk.org and invite other industry bodies to include links to this site.

3. Pilot three 'Standard Reports' (Matured Sales Analysis; Sales Report; Bookers Summary) for development by suppliers and test implementation with selected users.

ADUK to commission. Complete by end February 2006

ADUK, working with system suppliers, will endeavour to achieve this.

4. Write and edit a 'gold standard' for Standard System Reports with advice on standard calculations, statistical validity and minimum data capture guidelines, and publish on www.ticketing.org.uk.

ADUK to commission. Complete by end February 2006 to coincide with (3.)

ADUK supports the publication of a gold standard that allows purchasers (of box office systems) to articulate their requirements more effectively.

5. Organise a meeting of all system suppliers' personnel responsible for training. Promulgate the training requirements from this Report and seek cooperation in focussing on minimum content.

ADUK to organise/commission. Meeting held before end December 2005

ADUK will invite all system suppliers to attend a round-table meeting to discuss the findings of this report including training issues. ADUK will aim to hold this meeting in February 2006.

6. Review training needs requirements arising from the ADUK project and establish a training structure to meet the needs, in consultation with the Arts Marketing Association. This could require specific training inputs from system suppliers as well as external "cross-system" generic training. This must include training on extracting data from systems and advice on using external software to manipulate data which has been extracted from systems.

ADUK to organise/commission. Training structure set up by March 2006

ADUK will review the training needs that have emerged across the various studies that make up the programme of work. This review, involving all industry bodies, will inform a training module in data extraction techniques.

7. Make available a standard data extraction engine compatible with commonly used systems to enable data to be extracted from systems for analysis on external software. Propose negotiate with Purple Seven to place their solution in the public domain.

ADUK to organise/commission. Target end December 2005.

ADUK recognises that this is just one of the options available and will consider it alongside any others that may emerge during the consultation process with all system suppliers.

1. Key Issues

1. Standardising Reports

i. What is Standard?

The key issue in arriving at standard reports is not so much getting agreement on the content of reports but more on obtaining these in a standard format, with standard terminology, and on a standard calculation and extraction basis. The same information in apparently identical reports may have been inputted on a different basis, be processed in different ways according to the output required, and calculated differently as well as presented differently. Therefore standard reports to meet common information requirements need to be compiled within clear definitions of terms and protocols precisely defining what the information is and how it is obtained. These need to be accepted and understood by users, as a fundamental part of defining the data outputs.

ii. What affects standardisation of reports?

There are a number of areas in relation to box office data that effect the standardisation of reports (addressed in the following sections):

- Operation of Systems
- Data Intake, in two parts:
 - Automatic data derived as a result of system set-up
 - ‘Discretionary’ data input by the operator as part of the transaction.
- Data Processing (processing of data internal to system that combines and operates on base data)
- Data storage and outputs

At each stage, standardisation relies on

- set of definitions and protocols (what is the data required, how is it compiled, what are the drills and procedures around getting it, using it)
- competence of those responsible for doing it (what prior knowledge is required to manage the data and process it appropriately).

2. Operation of Systems

Despite our detailed knowledge of the individual ticketing systems and their functionality, we were still surprised at the degree to which the individual user could have radical affect on how data is inputted and how the system's internal calculations and data compilations are executed, which are otherwise entirely automatic. This has a major effect on the solutions since it may involve large changes to the configuration of systems, requiring software development to implement.

The ever increasing functionality of the systems, and the desire of the suppliers to supply a single software product to meet the needs of a variety of users from arts organisations to, say, major sports stadia, means that the end users get to configure large areas of their system to the specification they require. This work is rarely done by the system supplier, though some venues have found that it has been done by the trainer who visited them to commission the system, sometimes in a different set-up than they would have chosen. In addition, people in the role of Box Office system managers in arts organisations get to make many decisions when setting up an event for sale. Many such people are not clear on, or involved in, the reasons why their management might be pursuing a particular marketing campaign or presenting a particular project so may inadvertently set up the system in a way which precludes or obscures the data outputs which are later requested.

It is significant that, with some systems, configuration is possible per terminal, and this can mean that an apparently identical report pulled from two computer terminals can produce different results. Some systems may also always extract and calculate data 'on the fly', so, dependent on circumstances, a report pulled at one time might differ in the results pulled at another, especially according to activity levels in the database.

3. Data Intake

i. Types of Data Intake

For this study, it is necessary to understand what data is captured by the systems, either automatically during a transaction or by data input by staff from their interaction with visitors or purchasers. In fact, of course, a relatively modest range of data is captured; indeed it appears that galleries and museums collecting data on their visitors may capture more data about their visitors than most ticketed

organisations. It may be stating the obvious, but the data captured and recorded in a ticketing transaction is primarily on the ticket purchaser and only peripherally on the attenders; the transaction will record say two adult priced tickets, one pensioner and one child, but not know which of the four bought the tickets.

Data intake is in two forms:

- ‘Automatic’ data derived from system set-up. The ways systems and the events on sale are configured and set up, so that this meets the requirements of managers and marketers. This involves internal line management responsibilities, issues of workload and competence, and recognition of the importance of this to successful data processing and extraction.
- ‘Discretionary’ data, input by the operator as part of the transaction. From the consultation it appears there are operational difficulties in many venues in ensuring that the data is captured and recorded accurately in the system, unless that happens automatically as part of the transaction. Data which could be deemed discretionary, such as the postcode or a full address, may not be collected or input accurately.

ii. ‘Automatic’ Data

The automatically compiled data is as follows (in the sense that the system automatically takes it in from the transaction and there is no optional input by the operator):

Event Attended	in some venues for a visiting company this might refer only to the company name and not the event, particularly unhelpful if this is a company playing a repertoire of items may also include coding fields relating to the event category or promoter and to the venue or space in which the event takes place.
Number of tickets	the number of tickets in the transaction for a single visit at a single time; some systems will record as multiple transactions when customers change the numbers of tickets/seats purchased
Price Paid	usually the price paid for each ticket in the transaction, so not the face value; accounting for this could vary according to treatment of credit card commissions, agent discounts, etc.; the handling of price promotions can mean tickets which should have a paid value are shown as complimentary, for example “two for the price of one”, if sales promotions are not set up appropriately
Price Type	depending on the system, a range of different price types can be recorded, reflecting either the part-of-house (where the seat/place is located) and the “concession” or price promotion, or in some cases the

	sales channel or sales outlet. This is where much of the data which might inform transaction type (below) is recorded such as sales to Friends or Members, Subscribers, etc.
Part-of-House	most systems record at the time of purchase where the seat/place is located in the auditorium; this data may not survive archiving.
When purchased	most systems record the date and sometimes the time of purchase; this can be output as number of days after the event went on sale (less helpful) or the number of days the sale was made before maturity (very helpful); again, this data may not survive archiving.
Transaction Type	dependent on system, sales channel options as to whether it was an over the counter, telephone or Internet sale will be recorded; this may lead to "flags" on a customer's record to enable campaign tracking; again, this data may not survive archiving.
Payment method	the choice of payment method such as credit card, cheque or cash; again, this data may not survive archiving.

iii. 'Discretionary' Data

The optional data which is inputted by the operator at their discretion (though it may be a requirement of the transaction) is as follows:

Purchaser's name	the system will usually require the minimum to comply with the payment method; the organisation usually requires a mailable name (or "name as it appears on the card"), with title (Mr./Mrs./Ms) and a first name for the salutation; some older systems record only initials, or place first and second names in the same field
Mailing address	usually the statement address for credit card or cheque payment purposes
Postcode	the full postcode for the address
Telephone	usually requested as a contact number in the event of cancellation or change of the details for the event
E-mail	optional additional information to enable e-mail marketing
How found out	systems frequently give the option to ask customers what publicity they saw to persuade them to attend or what was the most persuasive source of information, usually recording only one item
Data Protection status	"informed consents" and agreement to contact methods and data sharing; not all systems allow the full range of options to be recorded
Demographics	systems sometimes permit operators to add observed or obtained information on ethnicity, age, role in family, usually in user defined fields

The system may have the ability to compile additional data or supplement the customer record as follows:

Profile	probably using CACI's ACORN or Experian's Mosaic, looked up from the postcode input
Loyalty points	according to the events attended, a points value based on the purchaser's behaviour, the best example of which is Chapter Cardiff's "Clic" card

iv. Areas for Confusion

There are clearly variations in how the data above is collected, recorded in fields, and in how it might be processed or compiled into tables or reports. For most purposes, however, this will be most affected by a number of items most users would expect to be standard. As an example, it is appropriate to draw attention to four:

Seating Capacity	reports of seating capacity occupied and the financial value of seats sold are calculated with reference to the total number of seats available for sale and the related face value prices attached. However, either the suppliers or someone at the venue can set up the 'seat map' for the event, which may reflect maximum physical capacity. This may then be modified according to the seats to be made available for that specific event, such as whether there is an orchestra pit or a fore-stage, a mixer desk or wheelchair places. This may also include having different seat statuses such as House Seats, Producer Seats, which may be sold or occupied. The capacity figure may vary according to system or report.
Complimentaries	conventionally, these are guest tickets supplied free. They are often inappropriately used in accounting on the systems for sales promotions, notably in "two-for-the-price-of-one" (better recorded as two half price tickets) and "family tickets" where one ticket is sold at the family price and the accompanying family members are given complimentaries (again better recorded as reduced price tickets).
Gross and net values	systems have different processing routines to calculate these, including handling VAT and internal or external commissions and surcharges. These processing routines may be different for different reports. While super-accuracy may not be required for marketing analysis or action purposes, some accountants and auditors, especially it appears in local authorities, are concerned about consistency and precision.
Sales method	while most systems have the option to define the type of sale for a session, such as "counter" or "telephone", some have difficulty with handling records when customer records are treated differently. This appears

	to be mainly a matter of procedure in some cases, with some venues combining all unattributed door sales into a single purchase record, which renders analysis inaccurate or impossible. However, in others there appear to be problems in handling customer details arriving from Internet transactions.
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4. Data Storage and Outputs

Computerised ticketing and marketing systems store data in fields in a database. Each field usually has an embedded configuration to enable the receipt of data of an appropriate character, such as dates for a date field. Some fields are not configured but are open for the system user to configure. Some systems store data in a field by compiling or indexing it. This can mean that data stored in fields is incompatible between systems. It usually means that data extracted has to be further processed to make it comparable.

It is necessary to define a report from a database in two ways:

- Supposedly ‘factual’ or ‘fixed data’ static reports pulling largely unprocessed information such as Box Office returns of sales. Accountants and auditors would prefer most reports to be provided on this basis.
- ‘Analytical’ reports which are dynamic, drawing data from the database and carrying out processing and calculation routines to produce the report. These are usually sales analysis and customer extraction reports.

There are considerable variations in how the system suppliers have established the architecture for their databases and developed the software which handles the extractions and the processing. This has considerable implications for achieving standard reports compiled and calculated on the same basis across systems.

5. Data Accuracy and Statistical Validity

i. Data Cleaning

Even where very clear protocols are already in place and staff follow best practice to the letter, there are a number of areas in which reporting can be affected by erroneous data. This means that, if absolutely accurate reporting is to be achieved there is usually a need for data to be cleaned. The areas in which data may need to be cleaned include the following:

- Dummy performances set up as trial runs or by mistake;

- Mistakes made in coding events, promoters, series/runs, etc.
- Promoter transactions, e.g. for sponsors tickets, which can skew calculation of party size, frequency of attendance, geographical location, etc.
- There are usually other ‘outliers’ of unusually large transactions affecting calculation of frequency, party size etc. which are often difficult to account for but nevertheless probably need to be removed;
- Wrongly entered patron data (surname, postcode, etc.) usually results in a number of duplicate records which need to be identified;
- Wrongly entered data may also create ‘invalid’ records, which lead to duplicates, but will also affect geographical analysis. Identifying invalid booker records requires particular functionality on the part of the box office system, including lookups to an up-to-date postal address file.

Beyond the ‘data integrity report’ outlined in the specification, which should at least highlight the areas in which cleaning is required, it is very difficult to make consistent provision for the cleaning to take place.

ii. Statistical Validity

It is often assumed that when processing box office data we are dealing with ‘universe’ data and thus that issues of sampling do not apply.

However, this may not always be the case and the number of missing or invalid records may create issues around the ‘margin for error’, but also skew the sample.

One such area is to do with the unknown ‘associate’ attenders in the party attending with the booker. This is the subject of another study using primary research to attempt to arrive at standard multipliers to weight analysis of box office data. That study is also looking at the profile of customers who book at the last minute at the box office and for whom ‘discretionary’ data is not therefore collected.

Observational research suggests that lack of data capture particularly applies to certain types of customers, e.g. students, pensioners, cash-payers, as well as bookers on the door.

6. Consultation with Ticketing System Suppliers

Discussions with the ticketing system suppliers’ at the start of this feasibility study reveals that their primary concern is around costs, and whether this is another potentially fruitless project which they will be expected to undertake at their

expense. Some staff in some suppliers clearly feel jaded because they believe they have been encouraged to develop reports and functionality that the majority of users do not appear to use in practice. They are therefore reluctant to invest in extra work and new reports, and some are now expected by senior managers to justify the return on any investment in new development. However, most still show a commitment to meeting the needs of the industry.

In the fifteen months in which this study has been under discussion there have also been substantial changes amongst the system suppliers, with new systems in the marketplace and new personnel. Some key personnel who had committed their supplier in principle to assisting with this project are no longer in post.

The involvement of the four Arts Councils with Audience data UK also creates an expectation that there will be funding for implementation, so suppliers are likely to only agree to do what they are appropriately paid for. At the same time, more than one has indicated a willingness to develop an across-system “standard solution” if that is thought a potential solution, though in practice this always assumes encouragement to converge on a single ticketing system. This is not realistic.

There are some issues about whether individual systems at present could be said to meet the fundamental requirement of “fitness-for-purpose”. This may mean that there are opportunities to make progress where the supplier takes responsibility for achieving improvements in compatibility.

Few installations from small suppliers of systems have been found. While these do not meet more sophisticated ticketing and marketing requirements, especially in data capture and analysis, they apparently meet the basic needs of some smaller venues and local authorities simply for ticketing and for compiling a marketing database of purchasing customers. However, it seems that these could find it difficult to easily join a ‘standard reports’ regime and if they were to participate there could be substantial fees for development work.

The significant changes in the ownership and priorities of the system suppliers place new emphasis on internet-enabled sales solutions, at the expense of developing more marketing functionality. Three of the system suppliers are specific that the tools now available in Vital Statistics remove the need for them to develop in-system solutions which duplicate the functionality in Vital Statistics. The current rate of change in the system suppliers’ market means that it may be difficult to

guarantee that any agreement reached now would realistically be implemented in full.

7. New Technical Solutions

Every supplier has referred to the changes in technology and software platforms which mean that there are new technical solutions available, most of which make inter-operability and data extractions easier.

The adoption of the Microsoft SQL Server platform by four of the suppliers for their systems means for example that (provided the “plugs and sockets” could be configured for each system) one report should be able to run on each system. This reduces the development time and requires this to be completed by one developer, though still requiring the collaboration of each supplier on the “plugs and sockets”.

As a solution it remains vulnerable to any supplier upgrading their software and rendering the report dysfunctional. One new system supplier in UK remains reluctant to give access to the “plugs and sockets” in the database and argues that this is, in reality, the stance of other system suppliers who will be unwilling to so readily open up their interface, potentially taking away some of their competitive advantage. The conclusion must be that this is not a feasible solution at this time.

The recent advent of Purple Seven’s cross-ticketing-system data extraction and processing solution offers an alternative way of achieving an across-the-industry standard. Because most of the main system suppliers have granted this supplier access to their system’s databases, the supplier’s team can connect to systems and can take responsibility for how they extract the data and in what form it is calculated or compiled. Most suppliers consulted see this as a ready cost effective option. However, as presently offered as a solution to individual arts organisations, it involves an annual licence fee as well as the costs of a broadband Internet connection.

Of course, since this involves a service as well as the provision of reports, this method would involve additional costs. Another alternative to system specific solutions may be the development of a not-for-profit cross-system solution that enables data extraction, data compilation and the output of the standard reports. Avoiding re-inventing the wheel, it appears commonsense to seek a way of working with Purple Seven if this can achieve the lowest cost solution quickly, especially if this can be placed in the public domain.

The appropriateness of any approach turns on the system suppliers' willingness to collaborate with it and on the access to and usability of the outputs.

8. Competences & the Need for Training

i. Sector Competence

There appears to be a wide range of expertise within the sector in respect of audience data collected in computerised ticketing systems. Competence and understanding of the users within organisations varies between those who understand the data, manage the extraction, processing and interpretation of data, and those who use the system at the level of selling tickets and pulling off labels, but who would need third-party support to attempt anything more complex. The suppliers estimate informally that the latter might be true for more than 80% of their system users.

The key issue is lack of training: either training inputs not available after the initial burst on installation, or not taken up, with the result that, for many, training is largely second hand, passed on from predecessors, resulting in the 'Chinese whispers' effect... Most system users do not invest in the training of new staff on the system by the training suppliers themselves. Many users minimise their spend on training as part of the original install and commissioning process.

There are three separate issues:

- Knowledge of how their computerised ticketing system works and what its capabilities are
- Knowledge of marketing, and marketplace and customer behaviour analysis techniques and what to use them for
- Ability in terms of numeracy to understand and work with data outputs

The above is not intended to be negative or critical, but to describe the real situation, as it exists, in which progress has to be made. The suppliers are only too aware of the environment in which their systems are in use and the challenges of encouraging and enabling users to get the most out of their system. The personnel involved cannot be blamed for the situation they find themselves in. Insufficient funds are invested in the training and resourcing of Box Office operations. Insufficient management time is focussed on effective customer handling and customer relationship management, all of which fundamentally relies on the Box Office database.

It is possible to identify three key areas in which training is required:

- There is a general need for more training in the set-up and use of box office systems as they stand; this is for both Box Office and Marketing staff, and it is essential and fundamental that both are trained and continuity of expertise is sustained in organisations. This needs a coordinated and concerted effort by suppliers, working with a body such as the Arts Marketing Association.
- Once standard reports have been promulgated, there will be a need for training in how to use them. Perhaps equally importantly this training must address teaching users in the interpretation of the reports and the implications for the way they undertake marketing; again this needs a coordinated and concerted effort by a body such as the Arts Marketing Association.
- For those who cannot afford specialist solutions, much greater flexibility can be achieved in analysing box office data for some uses if 'raw' data is extracted and re-processed using standard products such as Access and Excel. These are very sophisticated software tools, but most potential users would require training in making extractions, exporting and importing data, and using the software effectively. This is a significant gap in industry competence for which training provision is required, and which is unlikely to be sourced from system suppliers, not least because it will require knowledge of other Box Office systems.

2. Report Specification

1. Report Types

This specification outlines two main types of report:

- **Extractions:** where data is produced for import into another software program for further processing, allowing much more flexibility in its use. This includes direct marketing lists and provision for those touring companies who keep a central database of customers and regularly need to update records.
- **Reports:** fully processed data that is presented for immediate use, but which might, nevertheless, be extracted into another program for presentation purposes.

2. Report Variables

The specification for each report divides the variables for analysis into three groups:

- **Selection Variables.** Allowing the user to specify and filter which parts of the box office database they wish to report on. This usually refers to events (but occasionally, and more complicatedly, to customer behaviour, as with the direct marketing extraction), by one or a combination of: date range, venue, promoter, run/series, or event classification. As such it requires the existence and proper use of appropriate 'setup' fields.
- **Independent Variables.** These form the basis of the specification of the report, i.e. the variables on which the report calculates results (the 'x' axis). They might also include sub-categories of selection variables (e.g. selection of three years, with independent variable for each year).
- **Dependent Variables.** These refer to the fields on which calculations are to be performed (i.e. the 'y' axis). In the specification, '% of' refers to the preceding variable unless otherwise stated. On occasions, dependant variables can also become independent on the y axis denoted where one variable is specified 'by' another.

3. Extractions

i. Matured sales analysis extraction

Applications	
Used by	Internal: Marketing, Box Office, Finance, General Management External: Touring Companies, Funders, Marketing Agencies, Consultants
For	Record-keeping Financial reporting Historical analysis of sales to identify patterns of demand Key Performance Indicators 'How's Business' surveys, etc.

This extraction provides the same data as the Sales Report (4.ii) in a form that can be extracted for further analysis in Excel or equivalent.

Report Specification		
Selection Variables	Independent Variables	Dependant Variables
Events in: Date range Venue	Event date/time	Event name Venue Promoter Event Category Physical Capacity Financial Capacity Tickets sold Complimentary tickets issued Gross income

ii. Discount sales analysis extraction

Applications	
Used by	Internal: Marketing External: Touring Companies, Funders
For	Analysis of uptake of discounts and concessions Key performance indicators

This extraction provides the same data as the Discount / Buyer Type Sales Report (3.4.3) in a form that can be extracted for further analysis in Excel or equivalent.

Report Specification		
Selection Variables	Independent Variables	Dependant Variables
Events in: Date range Event Category Venue	Event date /time	Event name Venue Event Category Tickets issued by Discount code group Gross income from tickets issued, by discount code group.

iii. Database update extraction

Applications	
Used by	Internal: Marketing, Fund-Raising External: Touring Companies, Consultants
For	Transferring and updating patron and transaction data to a separate database.

Report Specification		
Selection Variables	Independent Variables	Dependant Variables
Events in: Venue Selected Promoter Event category Date range: Event date Booking date	File 1: Patron UID	NAR (NB protocol)
	File 2: Booking UID	Event UID Event date/time Event name Booking date/time Total tickets issued Total gross income Patron UID
	File 3: Ticket (Transaction) UID [n.b. may be for one or more tickets with same price / discount code]	Booking UID Discount code / Buyer Type Ticket Price Total tickets issued (if appropriate)

Note: depending on the level of complexity of the receiving database, only Files 1 & 2 may be required. It may also be possible to combine Files 1 & 2, or indeed all three, in one extraction where higher level data is repeated for each booking or extraction.

iv. Direct marketing extraction

Applications	
Used by	Internal: Marketing, Fund-Raising External: Touring Companies, Consultants, Marketing Agencies
For	Extracting patron contact details for marketing communications by post, email or phone.

Report Specification		
Selection Variables	Independent Variables	Dependant Variables
Ability to extract according to analysis criteria in most reports. For example: Recency of attendance, selecting only bookers who have not attended in the last year.	Patron UID	NAR Plus, possibly, some level of detail of bookings.

Note: this type of extraction would require a more sophisticated functionality and may not be possible on all systems. Requires further discussion with system suppliers.

v. Catchment Analysis extraction

Applications	
Used by	Internal: Marketing External: Marketing Agencies, Consultants
For	Extracting postcode information for mapping.

This extraction provides similar analysis to the Postal Area & Sector Analysis Report (??) in a form that can be extracted for further analysis using mapping software.

Report Specification		
Selection Variables	Independent Variables	Dependant Variables
Events in: Venue Selected Promoter Event category Date range: Event date Booking date	Postal Sector	Total bookers Total bookings Total paid tickets Total gross income

Note: extraction should include only those bookers/bookings where one or more tickets were paid for.

4. Reports

i. Data Integrity Report

Applications	
Used by	Internal: Marketing, Box Office
For	Assessing statistical reliability of database analysis Track effectiveness of sales staff in recording discretionary data Identify need for database cleaning

Report Specification		
Selection Variables	Independent Variables	Dependant Variables
Date range: events	Un-attributed sales Data protection flags Duplicate bookers Incomplete / invalid records Totals for each dependant variable	Number of bookers % of total Number of bookings % of total Number of tickets issued % of total Gross income % of total

Notes: This report relates to issues of data cleaning: on the one hand it informs the need for data to be cleaned, on the other it relies on cleaning having been done.

Identifying invalid records assumes the system incorporates an up to date PAF.

ii. Sales Report

Applications	
Used by	Internal: Marketing, Box Office, Finance, General Management External: Touring Companies, Funders, Marketing Agencies, Consultants
For	Record-keeping Financial reporting Historical analysis of sales to identify patterns of demand Key Performance Indicators 'How's Business' surveys, etc.

Report Specification		
Selection Variables	Independent Variables	Dependant Variables
Events in: Date range Promoter Run/Series Event Category Venue	Variables as selected Sub date-ranges (e.g. year / season) Event date/time (if required) Events matured / on sale at report date	Number of events (if appropriate) Seats Capacity Tickets Sold % of capacity 'sold' Complimentary tickets issued Number of tickets held off sale Number of tickets reserved

		Number of seats available for sale Financial capacity Gross income from sales % of financial capacity Yield / ticket Gross income possible from seats available for sale
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Notes: Sales report may be produced during a run/season and as such may need to show both advance sales for events currently on sale and matured events, and distinguish between them.

iii. Discount / buyer type sales reports

Applications	
Used by	Internal: Marketing External: Touring Companies, Funders
For	Analysis of uptake of discounts and concessions Key performance indicators

Report Specification		
Selection Variables	Independent Variables	Dependant Variables
Events in: Date range Promoter Run/Series Event Category Venue	Discount code / buyer type group, to be defined in Protocol Totals for dependant variables	Discount code / buyer type No. of tickets issued % of total tickets issued Gross income from tickets issued
	Variables as selected Sub date-ranges (e.g. year / season) Event date/time (if required)	No. of tickets issued by Discount code / buyer type group, to be defined in Protocol % of total tickets issued

Notes: two versions, one showing detail of discount codes within each group, the second summarising sales by group, detailed by event variables.

iv. Marketing code report

Applications	
Used by	Internal: Marketing External: Touring Companies
For	Tracking effectiveness of marketing communications

Report Specification		
Selection Variables	Independent Variables	Dependant Variables
Events in: Date range Promoter Run/Series Event Category Venue	Marketing code No marketing code Totals for dependant variables	Number of bookings % of total bookings Number of tickets issued % of total tickets Gross income from tickets issued % of total gross income Gross yield / booking Gross yield / ticket

v. Sales Channel report

Applications	
Used by	Internal: Marketing, Box Office
For	Tracking use of sales channels Planning disposition of sales resources

Report Specification		
Selection Variables	Independent Variables	Dependant Variables
Events in: Date range Promoter(s) Run/Series(s) Event Category(s) Venue(s)	Sales Channels (as defined in protocol) Totals for dependant variables	Number of bookings % of total bookings Number of tickets issued % of total tickets Gross income from tickets issued % of total gross income Gross yield / booking Gross yield / ticket

1.

vi. Bookings Summary

Applications	
Used by	Internal: Marketing External: Touring Companies, Funders, Marketing Agencies, Consultants
For	Overview of booking patterns to inform need for further analysis Key performance indicators

Report Specification		
Selection Variables	Independent Variables	Dependant Variables
Events in: Date range(s) Promoter(s) Run/Series(s) Event Category(s) Venue(s)	Variables as selected Selection Sub-ranges (e.g. year / season) Totals for dependant variables	Number of bookers Number of new bookers % of all bookers Number of bookings Average frequency of attendance Total tickets issued Total value Average party size Yield / booker Yield / transaction

vii. Bookers Summary

Applications	
Used by	Internal: Marketing External: Touring Companies, Marketing Agencies, Consultants
For	More detailed analysis of frequency of attendance, including number and value of tickets sold.

Report Specification		
Selection Variables	Independent Variables	Dependant Variables
Events in: Date range(s) Promoter(s) Run/Series(s) Event Category(s) Venue(s)	All Bookers New Bookers Bookers by frequency: 1 event 2 events (etc., high frequency aggregations to be defined by protocol)	Number of bookers % of total bookers Number of bookings % of total bookings Average frequency of attendance Number of tickets sold % of total tickets sold

		Average party size Gross income % of total gross income Gross Yield / booker Gross Yield / booking
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viii. Bookers by party size

Applications	
Used by	Internal: Marketing External: Touring Companies, Marketing Agencies, Consultants
For	More detailed analysis of party size, including number and value of tickets sold.

Report Specification		
Selection Variables	Independent Variables	Dependant Variables
Events in: Date range(s) Promoter(s) Run/Series(s) Event Category(s) Venue(s)	Party Size Aggregated as per protocol.	Number of bookings % of total bookings Number of tickets sold % of total tickets sold Average party size Gross income % of total gross income Gross Yield / booking

ix. Segmentation by value / frequency

Applications	
Used by	Internal: Marketing External: Touring Companies, Marketing Agencies, Consultants
For	Identifying target market segments to inform marketing planning.

Report Specification		
Selection Variables	Independent Variables	Dependant Variables
Bookers in: Event date range(s) Promoter(s) Run/Series(s) Event Category(s) Venue(s)	To be defined by protocol	Number of bookers % of total bookers Number of bookings % of total bookings Number of tickets purchased % of total tickets sold Average party size Gross income % of total gross income Gross Yield / booker Gross Yield / booking

Notes: there are a number of ways in which customer data may be segmented (e.g. Pareto) which need to be outlined in a Protocol in order to inform the Standard Report.

x. Churn / Booker Retention

Applications	
Used by	Internal: Marketing External: Touring Companies, Marketing Agencies, Consultants
For	Understanding patterns of customer retention to inform marketing planning.

Report Specification		
Selection Variables	Independent Variables	Dependant Variables
Bookers in: Event date range(s) Promoter(s) Run/Series(s) Event Category(s) Venue(s)	Bookers at start New bookers Bookers lost Bookers retained Net change %age churn % retention	Number of bookers % of bookers

Notes: calculations are defined in the protocols section.

xi. Recency of Attendance

Applications	
Used by	Internal: Marketing External: Touring Companies, Marketing Agencies, Consultants
For	Understanding patterns of customer attendance and identifying when customers last attended to inform marketing planning and to inform extractions for campaigns to trigger re-attendance.

Report Specification		
Selection Variables	Independent Variables	Dependant Variables
Bookers in: Event date range(s) Promoter(s) Run/Series(s) Event Category(s) Venue(s)	Date last attended: Last month Previous month (month name shown) > 6 months - < year > year etc. Total for dependant variables	Number of bookers % of total bookers Number of bookings % of total bookings Number of tickets purchased % of total tickets sold Average party size Gross income % of total gross income Gross Yield / booker Gross Yield / booking

xii. Postal Area & Sector Analysis

Applications	
Used by	Internal: Marketing External: Touring Companies, Marketing Agencies, Consultants
For	Basic analysis of geographical location of bookers as a simple alternative to mapping.

Report Specification		
Selection Variables	Independent Variables	Dependant Variables
Bookers in: Event date range(s) Promoter(s) Run/Series(s) Event Category(s) Venue(s)	Postcode area (sorted, descending, by no. of bookers) Postcode Sector (sorted, descending, by no. of bookers) Totals for dependant variables	Cumulative number of bookers % of total bookers Cumulative number of paid tickets % of total tickets Cumulative gross income from tickets sold

		% of total income Yield / booker
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xiii. Time of Booking

Applications	
Used by	Internal: Marketing External: Touring Companies, Marketing Agencies, Consultants
For	Identifying booking patterns to inform marketing planning.

Report Specification		
Selection Variables	Independent Variables	Dependant Variables
Bookers in: Event date range(s) Promoter(s) Run/Series(s) Event Category(s) Venue(s)	No. of weeks (rounded to nearest whole number) between booking date and event date. Totals for dependant variables	Cumulative number of bookers % of total bookers Cumulative number of paid tickets % of total tickets Cumulative gross income from tickets sold % of total income Yield / booker

xiv. Direct Marketing Response

Applications	
Used by	Internal: Marketing External: Touring Companies, Marketing Agencies, Consultants
For	Measuring impact of direct marketing communications

Report Specification		
Selection Variables	Independent Variables	Dependant Variables
Direct marketing selection(s) Events in: Date range(s) Promoter(s) Run/Series(s) Event Category(s) Venue(s)	Direct marketing selection(s) Totals for dependant variables	Number of bookers in DM selection Number of those who booked for selected events % response rate Total paid tickets Gross income from paid tickets

		Yield / booker
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Note: assumes that the system has a facility for recording selections made for direct marketing and tracking responses.

xv. Cross-over

Applications	
Used by	Internal: Marketing External: Touring Companies, Marketing Agencies, Consultants
For	To be used in partnership with reports on frequency and retention to understand patterns of booker behaviour in order to inform marketing planning.

Report Specification		
Selection Variables	Independent Variables	Dependant Variables
Events in: Date range(s) Promoter(s) Run/Series(s) Event Category(s) Venue(s)	Sub-category of selected variable(s): Date range(s) Promoter(s) Run/Series(s) Event Category(s) Venue(s)	Number of bookers booking who also booked for events in another sub-category within selected range. % of bookers in category Number of bookers not booking for events in any other sub-category. % of bookers in category

xvi. Sales by POH / Price Band

Applications	
Used by	Internal: Marketing External: Touring Companies, Marketing Agencies, Consultants
For	Analysis of sales in each price band and part of house to inform pricing policies.

Report Specification		
Selection Variables	Independent Variables	Dependant Variables
Events in: Date range(s) Promoter(s) Run/Series(s) Event Category(s)	Part of house Totals for dependant variables	Face value of tickets in part of house Physical capacity Number of tickets issued % of physical capacity Financial capacity

Venue(s)		Gross income from tickets issued % of financial capacity
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3. Definitions & Protocols

Below is a list of the terms which require definitions and protocols in order to specify the standard reports. Those terms for which the study undertaken by Stephen Cashman provides definitions and protocols are indicated by (SC).

TERM	DEFINITION	PROTOCOL
Booker	(SC) A person making an advance reservation (or reservations) for a seat at a ticketed event or performance. When the organisation with which a booking is made has a computerised ticketing system or database, the booker is likely to have been recorded by way of a name and address record.	
Booking	(SC) An overall unit for analysis comprising the complete and finalised sequence of interactions that – when taken together - contribute to the eventual transaction total . For instance it is perfectly possible for such a 'booking' to be made up of a sequence of events that includes: an initial, unpaid reservation; it's following confirmation through purchase; and any associated returns or refunds.	Needs further discussion with system suppliers
Booking date/time	Transaction date or, where the booking consists of more than one transaction, the date of the first transaction in the sequence.	Needs further discussion with system suppliers
Booking UID	A unique number used to identify each booking. NB some systems will identify only unique transactions and so for the purposes of some reports, and for the relevant extractions, this number will need to be generated specifically.	
Churn / Booker Retention	(SC) An analytical procedure for quantifying the	(SC) The churn calculation is performed as follows.

	<p>degree of audience turnover, based on evaluating and comparing the rate at which new audience members are acquired, and existing audience members are retained or lost. The term 'churn' is also used as a name for the identified rate of audience turnover.</p>	<p>First record the number of customers there were at the start of the period being analysed (this will be called 'A')</p> <p>Then find the number of new customers gained during that period ('B')</p> <p>Also identify the number of customers lost during the same period ('C')</p> <p>The number of customers being carried forward to the next period ('D') can now be calculated as: A PLUS B MINUS C</p> <p>As can the number of customers retained during the period ('E') (and thus included in the number carried forward) – this equals A MINUS C</p> <p>Also the net change ('F') in the size of the audience can be found through the calculation B MINUS C</p> <p>Two other calculations using these figures can also usefully be carried out to give an indication of the relative rate of this audience's turnover.</p> <p>The percentage churn equals: $(\text{Net change} \times 100) / \text{Starting No.} = (F \times 100) / A$</p> <p>The percentage retention rate equals: $(\text{Number retained} \times 100) / \text{Starting No.} = (E \times 100) / A$</p>
<p>Complimentary tickets</p>	<p>(SC) An admission that has been allowed to a charging space for no charge, that has been issued as a gratuity by the presenting organisation, with the implied loss of income to that organisation.</p>	<p>Such 'complimentaries' should also include admissions made at no charge for direct business reasons (for instance for business development, press and PR, as an apology or correction for customer service errors), as a reward or an incentive for someone acting as a group booker, or as part of an audience development</p>

		<p>scheme.</p> <p>If relevant, the free portion of a TWOFER ('two tickets for the price of one') or BOGOFF ('buy one get one free') offer should be recorded and reported as a ticket issued at 50% of its published face value. Therefore these should not be treated as 'comps'. But experts in the field (such as Roger Tomlinson and Tim Baker) point out that customers expect to be able to identify a free ticket issued as part of such an offer, so the price printed on the ticket should be shown as £0.00.</p> <p>NB this should also include comps given to Group Booking organisers</p>
Data capture rate	(SC) A measure of the number of booking transactions made at an arts facility for which details have been recorded.	<p>(SC) This rate is typically expressed as a percentage, ie:</p> $\frac{(\text{No. transactions for which details are recorded}) \times 100}{\text{Total number of transactions}}$ <p>Although on reflection, ideally this should measure bookings rather than transactions (?)</p>
Data protection flags	A database field or fields (possibly just tick boxes) indicating whether or not a customer has given informed consent to be contacted by post, phone or email.	<p>Customers could be given the option of up to three separate types of data processing to agree to:</p> <ul style="list-style-type: none"> Use only by the organisation collecting their details – usually a venue or ticket agent Use by the venue and/or ticket agent and the relevant company or artist Use by third parties such as related venues in the same city/area or in a consortium <p>Their explicit permission is needed for each type for each contact method appropriate so could be post, phone, fax, e-mail, or text message (SMS)</p>

		<p>It is necessary to record the date on which people were asked and agreed the above.</p> <p>If people decline to have their details recorded in fact their record must be suppressed and not deleted. This ensures that people are not re-captured who when asked had declined. Suppressed records can be used for processing for analysis purposes but not for extraction for direct marketing purposes.</p>
Date last attended	The date of the last event attended by a patron.	
Date range	Two dates used to specify the range for a report or extraction, variously: event date, booking date, etc.	
Direct marketing selection(s)	A database field, or fields, used to indicate and describe marketing communications sent to a patron.	Needs further discussion with system suppliers
Discount	<p>(SC) ... A generic term relating to a reduction in face value made by a charging facility on the published value of an admission. These can be offered as part of a marketing initiative or as part of the usual concessions policy.</p> <p>For the purposes of reporting, taken to refer to %age discount.</p>	Discount rate calculation: $((\text{price} - \text{gross yield}) / \text{price}) * 100$
Discount code / Buyer Type	A database field, or fields, used to specify and describe the discount given on the face value of a ticket.	Protocol re grouping of codes? See end of document: 5.1
Duplicate bookers	Occurs when a single individual appears more than once on a database. Usually this happens because the original record was either incorrect or not properly referenced by the sales person. However, depending on the level at which individual patrons are identified, this can also result from more than one person from the same household making a booking.	Needs further discussion about what level to de-duplicate: individual or household?

Event	(SC) A discrete, one-off happening such as an exhibition, performance or participative workshop. The plural of event is a series or run. However there are potential tensions here between this definition and the term 'event' as it tends to be used by some ticketing system suppliers.	
Event Category	A code, or codes, used to group events with similar characteristics.	Subject of separate study by Peter Verwey.
Event date /time	Date / time of event	Needs further discussion with system suppliers
Event name	Title of event that appears on a ticket.	
Event UID	A unique number used to identify each event	
Face value of tickets	The full price for any ticket without discounts applied.	
Financial Capacity	(SC) The total amount of money that could be generated from a discrete performance or event, calculated by multiplying the total number of places available for occupation with the full face value of those places.	
Frequency of attendance	Same as AVERAGE RATE OF ATTENDANCE ((SC)) The mean number of times a typical user visits or attends an arts facility over a particular period. (For instance a month, or 12 months). Hence this is a basic measure of the typical frequency of attendance (eg twice a year).	(SC) This is calculated by working out: Total number of attendances made over the period in question / Total number of events these attendances refer to That is, the total number of visits made by all attenders during the period being looked at, and then dividing this total by the number of people whose attendances have been included in the total. Since this is a rate of attendance it would be expressed in the form 'X times a year' or 'X visits per year'.
Gross income	(SC) The amount of income received before any	Needs further discussion with system suppliers

	deductions are made to reflect elements such as VAT, credit card charges, booking fees or any other chargeable aspects. For purposes of simplicity and consistency, wherever possible the use of gross income (rather than net income) should be encouraged.	
Gross Yield / booker	Total gross income from tickets purchased by one booker within a specified date range, sometimes expressed as an average across numerous bookers.	
Gross yield / booking	Total gross income from tickets purchased in one BOOKING, sometimes expressed as an average across numerous bookings.	
Gross yield / ticket	Gross income for each ticket sold.	
Group	(SC) An organised attendance by a number of people who are coming by virtue of an intervention made by (or on behalf of) an arts facility. Such interventions could include the activities of a dedicated 'Group Bookings Organiser' or the customer's use of a special and dedicated 'group booking rate'. (see Party).	
Incomplete / invalid records	A database record for a booker which has insufficient discretionary data entered to allow that booker to be uniquely identified.	Unique records can be identified by comparison of postcode, then house/flat number/name in combination with surname and first name/initials. If complete/invalid records do not contain this minimum discretionary input for postal address verification. Telephone numbers and e-mail addresses may aid identification.
Marketing code	A database field or fields used to record a code describing a range of different marketing channels, captured by sales staff by asking simple question of booker.	Systems usually have the facility to prompt an operator to ask the customer how they found out about the event or what persuaded them to purchase tickets. This can be offered as a question to Internet Ticket purchasers.

		<p>A list of the marketing channels used is compiled with an additional "other" category and the option of a free-form field to be filled in. The intention is for the customer to volunteer the channel instead of the operator naming the choices.</p> <p>This list is usually served to the operator as a drop down menu. Answers to such questions may be misleading, the first answer at the top of the list recurring most often. Placing the other option at the top can reduce this.</p>
Matured	Used to describe an even that has taken place.	
NAR (name & address record)	A booker's name and address record	Unique name and address records require a postcode, then house/flat number/name in combination with surname and first name. These are essential for a mailable postal address. Database fields for initials, title and suffixes are necessary for personalisation for direct marketing.
New Booker	A booker whose name does not already exist on the customer database as having made a previous transaction.	
PAF	Postal Address File.	
Paid tickets	All tickets that are not complimentary	
POH (part of house)	Areas of seating grouped together for the purpose of assigning differential prices.	
Party Size	<p>(SC) More than one user being admitted to a venue or facility who form a single entity due to some association they hold with each other. (see Group).</p> <p>TB: Party = more than one person attending a specific event as a result of one booking</p>	Suggest reporting on number of bookers in party size 1 – 10, then defining group as > 10?

Patron UID	Booker UID? A unique number used to identify each booker on a database.	
Physical Capacity	(SC) <u>Operational physical capacity</u> Total number of seats, wheel chair places and standing places MINUS any seats, wheel chair places and standing places removed from public use for operational reasons (such as installation of sound boards, or the closing off of parts of the house).	Needs further discussion with system suppliers
Postal Sector	The portion of the postcode up to and including the number after the space, e.g. CB4 1	
Postcode area	The letters at the beginning of a postcode, e.g. CB	
Price Band	Used to describe the range of prices offered across a grouping of seats, or parts of house, used to refer to discrete prices which may vary for different events.	
Reservation	(SC) A transaction carried out in advance of an event or a performance whereby an individual secures the use of a particular seat or space at a particular time. Depending upon the type of facility, event and transaction, reservations can be paid (ie all monies relating to them have been received), or unpaid (ie some or all of the money relating to them is still to be received).	
Response rate	(SC) One quantified measure of the success of a marketing or research exercise. Done by comparing the actual replies achieved with the initial number of items issued, this is conventionally expressed as a percentage.	

Run/Series	(SC) A multiple sequence of events or performances made up of the same production, event or artist.	Run = more than one performance of the same event Series = more than one performance of different events, grouped together for other reasons, e.g. same performer (most often used by orchestras)
Sales Channels	Method of booking (?), e.g. phone, post, in person (counter), email, Internet	Each transaction must have recorded the method of booking. For some systems this requires the selection of a default setting by each operator as they start their sales session, typically phone, post, counter. Internet Ticketing transactions are usually identified automatically. Operators processing e-mail ordered bookings need to record this method.
Segmentation	(SC) A key technique intended to provide an enhanced focus for marketing activities and research exercises, based on sub-dividing the wider market into discrete and identifiable sub-sets. Writer Alan Tapp [1998] describes this process as: " <i>Splitting markets into discrete groups to be treated differently</i> ".	
Ticket (Transaction) UID	Unique number assigned by database system to identify a specific seat/place for an event.	
Tickets sold	Tickets issued that are paid for, i.e. excluding complimentary tickets (see above)	
Transaction	(SC) A discrete and self-contained sequence of actions between a user and an arts organisation that contribute to and complete a particular outcome. Thus a transaction takes place whenever a person contacts and interacts with the organisation. Consequently the entire process of booking a ticket and attending an event could be made up of a number of different transactions. For instance: <ul style="list-style-type: none"> • A reservation transaction 	

	<ul style="list-style-type: none"> • A purchase transaction • An attendance transaction <p>and</p> <ul style="list-style-type: none"> • A refund transaction. <p>So each transaction needs to be seen as a one-off happening that is a component of more extensive pattern of occurrences. That more extensive or overall pattern of interaction is the total transaction and the money generated from it is the total transaction value.</p> <p>This is equivalent to Booking.</p>	
Un-attributed sales	Tickets issued with no record of the booker.	
Year	<p>(SC) A 12 month period within an arts facility's operation. Up to four types... see protocol.</p> <p>For purposes of KPI comparisons, Fiscal Year most appropriate.</p> <p>For marketing purposes, artistic year.</p> <p>Therefore need to be able to accommodate different definitions.</p>	<p>(SC) Although this could take the form of a calendar year (ie January to December), a financial year (the 12 month period for which an organisation prepares its accounts) or an artistic year (ie from the first to last event in an organisation's event calendar), for purposes of uniform and direct comparison with patterns of public funding FISCAL YEAR (ie the 12 month period that the UK Government uses as the basis for its budgeting and accounting processes = the Income Tax Year = 6th April 200X to 5th April 200X+1).</p> <p>Whichever definition type of 'year' is used, reports and commentaries should be specific on the one being used.</p>
Yield / booker	<p>The mean gross income generated per paying attender from an event or activity for the legal entity holding the financial interest in that event.</p> <p>Hence this should be calculated as:</p>	

	<p>Gross income generated by an event / The number of admissions to that event that have been paid for</p> <p>Consequently this calculation should NOT include complimentary admissions, but can include concessions and discounted admissions.</p>	
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1. Discount Code / Buyer Type Groupings

LEVEL ONE	LEVEL TWO	LEVEL THREE	NOTES
FULL			Full price tickets with no discounts.
COMP	Comp Zero-charge	A description of exactly what each discount codes means.	Need to distinguish between 'comps', e.g. to artists, and zero-charge tickets such as competition winners. (NB does not include second ticket in 'twofer' etc. – this is a 50% discount under 'offer')
MULTI			Any multiple <u>event</u> offer (including 2 shows for the price of one)
CONC	Child Student Young Old Disabled Unemployed		Concessions to particular groups reflecting social objectives. Level Two descriptions should fit the different groups identified in your Concessions Policy
OFFER	Types of offer		Sale promotion deals Level two descriptions should refer to the type of promotion, e.g. early-bird, email promotion, etc.
GROUP	School Other		Level two descriptions should refer to the type of group – just two probably OK.
STANDBY	Market sector (possibly as Conc.)		Important that Standby is separate because it's a completely different type of purchase. Level two descriptions should refer to the specific market sector at which the promotion was aimed.
ADMIN			Used for adjustments made by the Box Office, e.g. re-seats, etc.
PROM			Promoter's tickets... the same as comps, except paid-for.
CORP	Sponsor Corporate member		
FRIEND			
RM			Possibly required to identify seats flexibly priced as part of revenue management strategy

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