CultureHive Case Studies: Arts Data Impact

Background and Project Partners

The Arts Data Impact (ADI) project was a collaborative project between The Audience Agency, three arts organisations, University of Ulster and Magic Lantern. ADI addressed how data-driven insight can best support arts organisations and have an impact on organisational change. This was delivered via consultancy and the employment of two data scientists-in-residence who developed software tool prototypes for the arts partners. The main objectives of the project were to:

- Test data driven decision making in arts organisations
- Generate insight into new business and organisational models as a result of data driven decision making
- Facilitate a step change in the sector towards a more open and transparent sharing of data for the benefit of the entire sector

Arts partners: The Barbican, National Theatre, English National Opera and The Audience Agency were uniquely placed to initiate this project, poised at a point of major CRM development, and able to contribute thinking and experimentation, as well as large and robust data-sets. The arts partners hosted the Data Scientist in Residence for six months, test drove proto-types and played a leadership role in the sector.

Technology Partner: Magic Lantern Productions provided the technical strategy and worked with digital agency We Heart Digital to develop and build the tools for the arts partners in collaboration with the Data Scientists in Residence. Led by Anthony Lilley, author of Counting What Counts, it is a long-established and leading digital media company.

Research Partner: Professor Paul Moore was the Principal Investigator for the ADI project. Co-author of Counting What Counts, he is Head of the Schools of Arts and Computing at the University of Ulster and recognised as a leading exponent of ethnographic methodologies in the arts space. His research is focused on both the creative industries and the ways in which theory and practice can be brought together in training and education.

Outcome: The project has resulted in prototype tools that contextualise how data can be used to enhance business decisions. The tools provide intuitive push button reports that deliver

insights about each organisations' data. It was not a long or arduous process to gain something real from using the tools. The idea was not to replace people's decisions with data but to support decisions within a data informed culture. The project's success has been less on what those decisions actually were but on the narrative around those decisions, i.e. how the data has been used internally to develop understanding, tell stories and drive cultural change. While the tools represent the technical success of the project it is each organisation's story about their experiences on the project, with the Data Scientists and their responding internal shifts in behaviour around data that is the real success.

National Theatre

The National Theatre on the South Bank in London presents an eclectic mix of new plays and classics in repertory and aspires to reflect in its repertoire the diversity of the country's culture. They aim to expand the horizons of audiences and artists alike and share their work across the UK and abroad offline and online including touring, West End runs, live cinema screenings and a wide range of digital content.

Why did NT want to be involved in the ADI project?

The National Theatre (NT) is committed to expanding the reach of its work. As part of this they are always looking for better ways to appreciate the wider world of theatre and its effect on diverse audiences. They saw the ADI project as a way to better understand how audiences were using Social Media to advocate and talk about theatre.

Ultimately, this kind of understanding can contribute to the NT's desire to create a platform for ever more diverse work. They were also interested in how better use of data could support the sustainability of the sector as a whole.

What role does data play in The National Theatre?

Principally to aid decision-making and to drive communications with their audiences.

What was NT's perception of data? How has it changed?

The role of data has increased at NT, particularly in how it can help decision-making. That is not to say that their decisions are driven just by numbers – that would be far too reductive. However, they are increasingly seeing how data can help inform them better.

What kinds of data does NT have?

A huge diversity - from sales data, to audience feedback, including quantitative and qualitative.

What kinds of questions were NT interested in exploring as part of the ADI project?

For the National Theatre to use data to influence significant decisions it needs to be highly incisive, challenging and exciting.

The tool aimed to highlight theatre-goers' wider interests in addition to specific conversations around theatre, the National Theatre and emerging theatre (and talent) that has strong social presence. It was also an attempt to test the feasibility and effectiveness of applying machine learning algorithms to analyse theatre-related twitter content.

SONAR (Social Network Audience Response) was developed with the following question in mind: *What are theatre-goers talking about? What generates a social buzz? What are their interests in mainstream and fringe theatre, and more generally?*

How did these relate to their overall strategic/business goals?

The insights that surface from big data may help NT in their use of digital channels for engagement. To understand and connect with audiences no matter where they are in interesting and in new ways, in particular audiences they might never reach and who are not on their database. It may inform programme planning and helping the NT spot emerging talent.

What was it like having a Data Scientist in Residence embedded at the organisation?

The project could not have happened without the input of the Data Scientists and the way in which they worked with such good spirit and passion on the project.

The tool itself is different to the other ones developed by the arts partners in that it is more of a risk - a research prototype that will develop through further iterations as it relies on a twitter dataset which is more volatile than a database. All of that however is in keeping with the spirit in which they entered the project and none of it a departure from the starting point.

What kind of impact did their presence have on their way of working/organisational culture?

The impacts felt by the National Theatre going through the process have been invaluable. It has increased internal interest in national data, and enabled wider conversations amongst departments.

Arts Data Impact

What did NT learn about its data and the way that it could be used?

SONAR has two main features. Firstly, it extracts tweets published by Twitter users who have an interest in theatre and stores the tweets in a database. Each tweet is described with metadata on author, time of creation, etc. This dataset can be accessed and used for various types of analysis. Making this data easily available can facilitate a new angle of insight into theatre audiences. Obtaining such a dataset directly by searching Twitter would be challenging, due to the way search terms can be constructed in the Twitter web interface. Moreover, rate limits which Twitter imposes on the amount of data that can be downloaded within every 15 minutes, make manual extraction of such a large dataset impractical. The basic use of SONAR is therefore as a data extraction tool.

Did the process undertaken change how data is viewed in the organisation?

This is the first time that the NT has taken part in a 'big data' style project. Within the organisation it has started conversations about how such data can be used in the future, beyond simply looking at the data in their databases. Specific functions around Social Media monitoring have been written into the job description of a new role of Social Content Editor. In addition, working on a cross-organisational project has helped form new bonds which could prove very useful when trying to tackle wider data projects.

What is the longer-term impact of the Data Scientist and of the ADI project more generally?

The tool is still prototyping, however it is believed that in future it will allow the NT to understand audiences better, and see more clearly how audiences are engaging with theatre across the country. Ultimately the hope is that the tool will contribute insight to inform their strategic decision making.

What can other arts organisations learn from their experience?

How to tackle the big world of Social Media insight – and how to work with data experts most effectively.

What words of wisdom would you offer other arts organisations who are wanting to make better decisions with their data?

Data is a wonderful useful thing – however it can be complicated to handle. It is important that data is used to help answer really central, strategic questions that affect the whole organisation, rather than something that is used as part of a box-ticking exercise.