



Name, Set and Match for Venn Diagrams?

White Paper

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As technology has advanced, a concept that dates back to the late 1800's may just be the new way for business users to gain insight from the ever-expanding mountain of corporate data.

It never ceases to amaze me how excited people get when we demonstrate Venn diagrams in our Business Intelligence (BI) tool CXAIR.

So what is a Venn diagram?

According to Wikipedia, Venn diagrams (otherwise known as set diagrams) show all hypothetically possible logical relations between a finite collection of sets (aggregations of things).

Dating back to as long ago as 1880, Venn diagrams are not a new way of doing things however until recently the production of Venn diagrams has been more of an academic exercise of manually illustrating relationships in data by drawing a set of circles or ellipses on a screen or page and then manually filling in the numbers.

So why is it that only a handful of BI tools support Venn diagrams?

Even then, why can't these tools allow Venn diagrams to be built-up and manipulated in real time?

Going back to junior school, I was introduced to the concept of Venn diagrams in Mathematics, as I am sure many of you reading this were too. They were extremely easy to understand and clearly highlighted relationships in the data in an extremely simple and easy to understand way.

One of the great things about what a Venn shows you is not just the ability to find where things exist in more than one set but also conditions where things don't exist across two sets.

In BI terms it is often harder to determine where things don't match than where they do. Strange but true! Perhaps this is why there has previously been so few tools written capable of displaying data in this way?

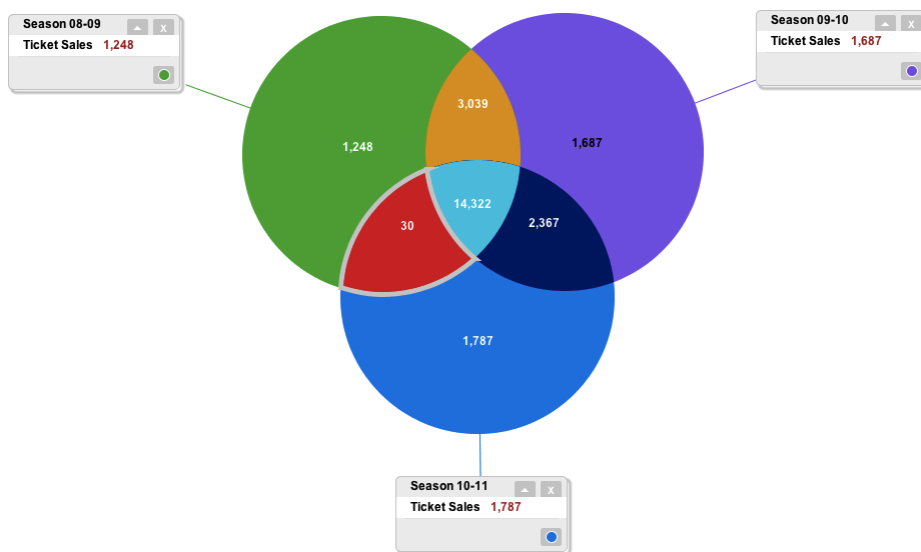
Introducing CXAIR Venn Diagrams

So what can a Venn tell you about your data? A simple three set Venn where each set overlaps one another at one point will show you 7 different relationships. Where a value exists in all of the sets and where things exist in more than one set and where things only exist in a single set.

Applying this to some sample CRM based data looking at customers who have bought an annual pass for a season, a Venn provides you with some really useful information.

- Which are my most loyal customers?
- Which customers are new in the most recent years data?
- Which customers did not renew in the latest years worth of data?

Trying to find this information out by analysing your data through traditional BI would involve some fairly sophisticated SQL which would give you a headache to write (if you were experienced and skilled SQL programmer) and if dealing with large data volumes would take an age to run.



In CXAIR by Connexica, the Venn requires no SQL and takes less than a second to calculate the relationships and display them on the screen. What's more, each circle can be moved around and detached from the main Venn in the same way that additional sets can be added to the Venn to create more and more sophisticated analyses.

Each intersection can be saved away as a set and then added to another Venn to highlight relationships that would be mind-bogglingly difficult to determine in any other way.

Exploring the Power of Venn Diagrams

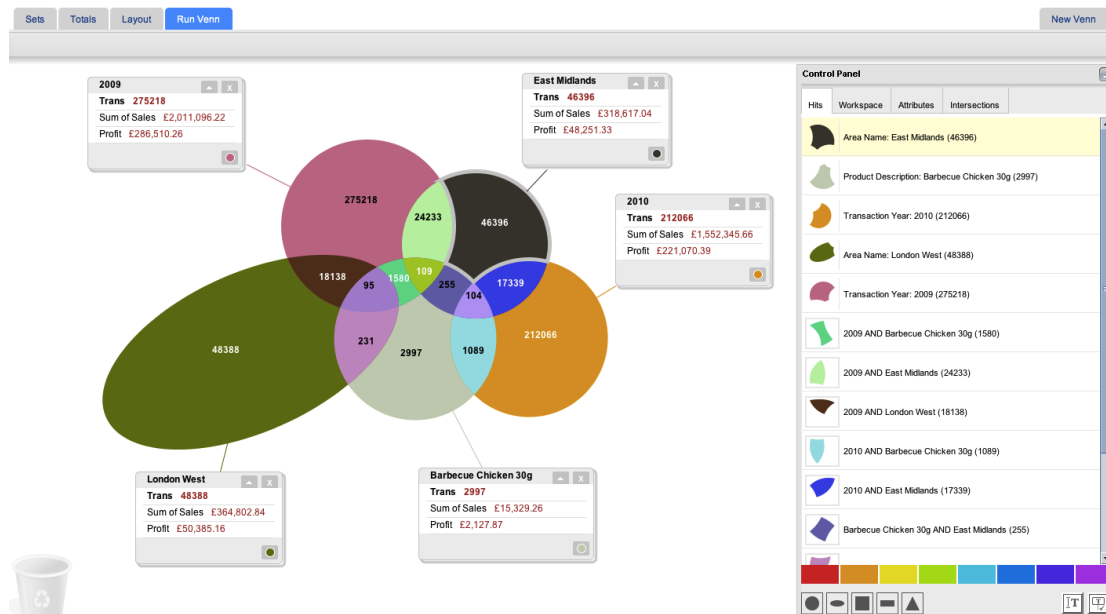
So what types of things can Venn diagrams be used for in the context of data analysis and reporting? What value can they offer over and above traditional reporting techniques?

- In banking, which of my customers who had a balance of over €5,000 who didn't have a savings account with the bank but do have other products such as credit cards or loans?
- In health and social services, which children have been repeatedly admitted over a period of consecutive weeks or months?
- In retail, which people who have bought a MacBook Air and an iPod but don't own an iPhone?
- In HR, which people have a propensity to phone in sick the day after a bank holiday?
- In crime prevention, which blue-eyed, five foot ten inch, Caucasian males under the age of 20 have been charged with multiple violent offences in a particular area and time period?

These are all obvious questions that you might want to find answers too but are difficult using traditional reporting techniques and nearly always require the expertise of the IT department not just the business user.

Conclusion

Venn diagrams are such an easy and powerful way of business users gaining real insight into their data. This knowledge can be used to create improvements, identify cost reductions and generate new revenue opportunities.



Whilst Venn diagrams may have been around for over one hundred and thirty years it is only now that through search technology, the hardware and software is advanced and fast enough to provide the slicing, dicing and computational power required for an interactive Venn querying tool.

Every BI supplier allows you to do aggregations; dashboards and filtering however they all require extensive support from IT and the solutions that do exist are too expensive and often too difficult to use for most business users.

We see Venn diagrams as a key analysis technique that finally allows users to mine and gain real insight into customer behaviour and data patterns.

If you would like more information on Venn diagrams or see them in action over the web, visit our web site at www.connexica.com and sign up for a free online demo.

About Connexica

Connexica is a software house that specialises in Information Access solutions. We offer organisations the fastest and most intuitive enquiry solution available on the market today.

Our powerful querying and analysis products bridge the gap between BI and Enterprise Search and provide end users with the ability to connect with their organisation's information quickly, easily.

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