



Business Analytics and Big Data Meets Trade Shows

by Jonathan Calof and Greg Richards

In this issues' event intelligence column, I team up with Greg Richards to look at the potential for business analytics at trade shows. Greg and I co-chair the Business Analytics and Performance Management group at the Telfer School of Management, University of Ottawa. We have been exploring the role of business analytics in a wide variety of areas, and lately I have been thinking a lot about the interface of big data, business analytics, and trade shows for several reasons.



1 Trade shows have become big data.

I have seen an explosion in the kind of information that is available at trade shows and events. When I started in trade shows in 1976 it really was about gathering secondary information (brochures and the like picked up at booths), business cards and notes made during interviews. Over the years I became aware of the addition to this information of pictures and videos on the show floor (where allowed or where provided), recordings of workshops, keynote addresses, copies of posters from poster sessions, and the like. Five years ago I was introduced to yet another information source from events, recordings made at the booth, transcribed and analyzed overnight with the analysis provided in the morning for action the next day of the event. In the past five years

added to that has been Twitter and other social media and information from barcode scanning, RFID session attendance tracking, and so forth. So there is now much information. Some of the information is structured and some is not, but the amount of this information has grown dramatically over the years and with it the opportunity to learn more about customer needs, competitors plans, technology trends, and the like.



2 Big data and analytics are now in the trade show mainstream.

More and more has been written in trade show articles (not event intelligence but trade show itself) about big data and analytics. In a study of Chief Marketing Officers, conducted in late 2013 by the Exhibit and Event Marketers Association

and Chief Marketing Officers Association, it was reported that 73% wanted improved attendee analytics and insights as part of exhibitors reporting. In the study it was noted that, “What is clear is that marketers are looking for value-added components to their event investments that deliver insights, measurements, analytics, and deeper engagements with their most valued prospects and customers”(CMO, 2013). But this is not the first (nor the last) that was written about analytics big data and trade shows. Roger Lewis, in writing about 2012 trends at trade shows, identified two analytics trends.

“Data” and “analytics” will be the watchwords of 2012 as platform developers further refine the concept of intelligent events—a holistic approach to analyzing all of the data from surveys, mobile event guides, social media, attendee behavior (RFID), and registration to understand the interests and preferences of attendees.

As more and more data is made available at trade shows, it’s not surprising that more is being written about the need to use this data to help companies maximize their trade show return on investment.



3 Growth in big data analytic software/tools and capability.

It’s not just the data that are growing so too is the development of tools to deal with both structured and unstructured data. It’s recognized that what most of the big data people talk about are actually unstructured forms such as tweets, images, and sound. Let’s talk about three basic sets of tools: data processing, data transformation, and data analysis. One of the things we know is that unstructured data needs heavy-duty processing power to capture, store, and conduct analyzes. Advances in file clustering approaches (such as Hadoop) permit organizations to process data up to 10 times faster than using traditional data management tools. Data transformation has also been addressed through changes in database structures. Without going into too much of the details here, we can conclude that data processing and storage of unstructured data is technically not a barrier to the analysis of trade show information.

Visual Reporting & Analytics Intelligent reports—data extracted from multiple sources during the course of the event—will become more visual and more available in real time so that planners can make changes to the event as it unfolds. Post-conference planning will become easier in the next twelve months with standardized decision-making tools.” (Lewis, 2012)



4 For analysis, many tools that have been around for years have been beefed up to handle both structured (think quantitative data such as number of attendees to different booths for example) and unstructured data (think about individual comments). Standard statistical tools such as IBM SPSS Modeller and SAS analytics now permit some analysis of text and numbers. In addition, specialized tools that focus solely on text are now available. It is important to understand, however, that just “seeing things” (i.e., describing what people are saying or how many visit a booth) is interesting but not sufficient to deliver benefits to organizations. The real power of analytics is that managers can better identify, for example, which attendees are more likely to purchase thus helping the company to save time and money while achieving better results. In addition, consider that comments from trade show attendees, if properly analyzed, could lead to product/service improvements or development of new products altogether. Ultimately, this is what the marriage of analytics and trade show data should allow companies to do: grow revenue, control costs, or generate new product or service ideas.

Sentiment analysis and wordmaps help understand what is happening at the booth

Throughout a trade show thousands of conversations happen at the booth between company staff and customers (as well as others). But how do you make sense of these conversations? How do you effectively mine them for customer insight? A typical approach has been to ask booth staffers at the end of the day (or the show) what they heard or periodic interviews during the day with booth staffers. Today, with analytics it is possible to systematically gather all the information and analyze it to develop customer insights. Here is an example taken from recent customer interviews. **With the permission of the customer**, the interview was recorded. Customer conversations include product desires, discussion about the company itself, experience, and so forth. As a first step, all the information collected was run through an online free sentiment analyzer – the results are in exhibit 1. A sentiment score of 26.8 arose from the discussion indicating slight positive feelings towards the company and their products. A deeper analysis using the wordmap reveals strong feelings (the larger the word the more it is mentioned) about the company technology and the people at the company that the customer gets to work with (the large words technology and people). But the larger and more frequent word mentioned is the word “customer”. An examination of the words and concepts around the word “customer” reveals a growing concern from the customer that they are being taken for granted. The insight developed from the sentiment analysis and wordmap is clear, customers are impressed with the technology that we are offering and the quality of the people they are dealing with but are growing increasingly concerned by our attitudes towards them. This may be leading to decreasing customer sentiment. By analysing all interviews in this manner, much insight can be developed.



Exhibit 2: Wordmap from Wordle from customer interviews



TRACKING SOCIAL MEDIA AN EXAMPLE FROM CONSUMER ELECTRONICS SHOW

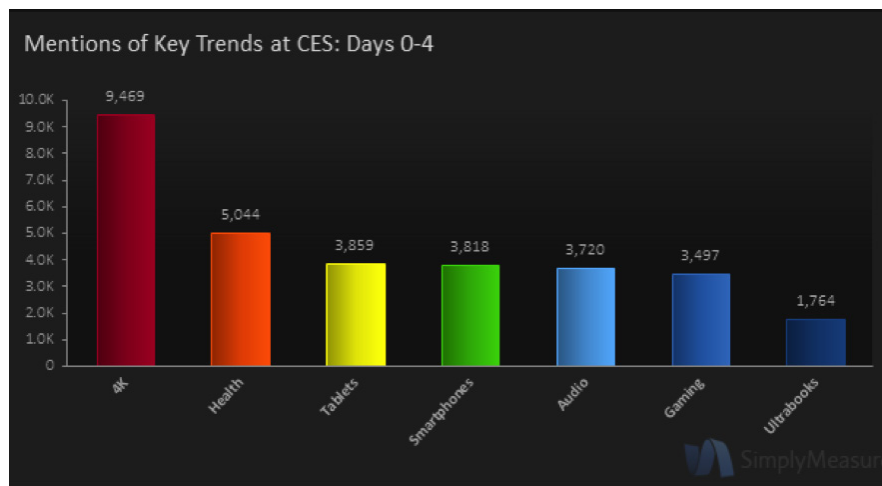
Mining information from conversations is one example of analytics and trade show applications. Another is use of social media analytics during an event. Facebook, Twitter, and other social media output have become an important part of event strategies. Whether it is event organizers themselves, participants, media, or others at an event, the amount of social media output is increasing and the ability to develop market, customer, competitor, and other insights is also growing. Kevin Shively wrote extensively about this in his blogs around the 2013 Consumer Electronics Show. In it he shows mentions of key trends during the event (exhibit 3) and Twitter brand mentions during the event (exhibit 4). The blogs have more graphics and analysis and readers are urged to read both Kevin's article about the CES and Tdalmin's blog posting about what marketers can learn from CES. A few observations from us, the authors:

1 The analysis of key trends by day enables the intelligence team to refocus on what is key at the event. Further, if part of our strategy is to get “talk” up on trends that are relevant to our company then this provides real time analysis of the impact of this type of program and the possibility for taking corrective action (e.g. if what we want talked about is not being mentioned in key trend tweets).

2 Analysis can go deeper than simply the number of tweets (are our topics mentioned, are we being mentioned) to include an analysis of both the source of the social media discussion and the extent to which it is being followed. Influence metrics. In fact, Tdadmin (2013) writes about using influencers to “create a buzz.”

3 Social media can also be used to post event analysis as discussion about the event occurs well after the event.

Exhibit 3: Mentions of Key Trends at Consumer Electronics Show, Kevin Shively



ADVICE FOR MANAGERS

This article has shown how business analytics, big data, and trade show intelligence are natural partners. In the future, the authors of this article will be developing more materials to help SCIP members and others take advantage of the opportunities created from this nexus. As a starting point for readers, we offer a few steps to help you develop an event intelligence big data analytics plan.

CES Twitter Brand Mentions

Tech Brands	Total Share of CES Tweets	Day 4 Share of CES Tweets	Day 3 Share of CES Tweets	Day 2 Share of CES Tweets	Day 1 Share of CES Tweets	Day 0 Share of CES Tweets
Samsung	7%	5%	6%	7%	5%	11%
HP	4%	10%	6%	5%	1%	1%
Sony	4%	2%	2%	2%	5%	7%
Intel	3%	2%	2%	2%	3%	4%
Audi	2%	2%	3%	3%	2%	2%
Panasonic	2%	1%	1%	2%	3%	2%
Qualcomm	2%	1%	1%	1%	2%	4%
LG	2%	1%	1%	1%	1%	3%
Lenovo	1%	1%	1%	1%	1%	2%
NVIDIA	1%	1%	0%	1%	1%	4%
Google	1%	1%	1%	1%	1%	2%
Sharp	1%	1%	1%	1%	1%	2%
ARM	1%	1%	1%	1%	1%	1%
Apple	1%	1%	1%	1%	1%	1%
Huawei	1%	0%	0%	1%	1%	1%
Ford	1%	0%	0%	0%	1%	1%
Verizon	1%	0%	1%	1%	1%	1%
Razer	1%	1%	1%	1%	1%	0%
Cisco	0%	0%	0%	0%	0%	1%
ASUS	0%	0%	0%	0%	1%	1%
Polaroid	0%	0%	0%	0%	1%	0%
Dell	0%	0%	0%	0%	0%	0%
Vizio	0%	0%	0%	0%	0%	1%
Sprint	0%	0%	0%	1%	0%	0%
Alcatel	0%	0%	0%	0%	0%	1%

Exhibit 4: Consumer Electronics Show Twitter Brand Mentions (Shively 2013)

- 1 Define the business value of the data you will be collecting (i.e., grow revenue, stimulate innovation etc.) Consider whether the goal is acquisition or customer retention or some combination of both but seek to quantify it as much as possible. Good customers can really help in product design and development, so multiple benefits can accrue from acquisition and retention strategy.
- 2 Define the type of data available (quantitative, qualitative, mixture of both). The point here is that if you want to gather text, images, sound, etc., this implies a certain type of analysis which in turn calls for specific tools and skill sets.
- 3 Identify the types of analyses that can help deliver the business value expected. For example, sentiment analysis can help identify general trends, but is this enough to support an investment in new product development?
- 4 Execute the appropriate data collection and analysis. Execution is often a challenge: trade shows are typically busy areas with lots of information moving rapidly. A systematic approach will help ensure the right data is captured and properly handled.
- 5 Evaluate, adjust, and repeat. Evaluation of results is important because it cycles back to the first point: what were the expected business results? Based on this assessment, data capture and analytics tactics can be adjusted and improved.

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