Big Data is the "New Black"

Assessing Brand Perception

by Giovanni Butera*

One of the top challenges facing organisations in today's competitive landscape is how to gain reliable information for making sound business decisions. Big Data represents a tremendous opportunity for tapping into business-critical insights. The ability to drill down and mine high quality information is the key to releasing the powerful potential of such a valuable resource.

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Nixora Group is the implementation partner of Integris in Australia and New Zealand. Nixora also partners with Oracle, Axiom, IBM, ASG and Moody's Analytics for the implementation of their solutions in financial institutions and large organizations.
If you would like to know how to take full advantage of Nixora proposition, call us today for a consultation and for a proof of concept. Email us at contact@nixoragroup.com.au, connect with us on LinkedIn, follow us on Facebook or visit our web site nixoragroup.com.au.

Big Data: a world of possibilities

Big data has undoubtedly brought substantial benefits to business, education and government, and has delivered significant advances in medicine, science and technology. But there have been a couple of misgivings recently expressed about big data. These have to do with the potential for privacy breaches and the potential for the misuse of information provided by everyone and anyone using social media.

It just makes good business sense to ensure the ethical use of data by helping everyone understand what information is collected, why it is collected and how it is used.

While these concerns are quite legitimate, it is very important to remain circumspect and not misrepresent or exaggerate the issues. After all, any company, whether large or small, would not be worth its salt if it did place a high value on protecting the privacy of all its stakeholders, especially its customers. And given that much of big data comes from the Internet, any means that captures and analyses information that is already freely available should not be automatically regarded as suspect.

The point here is that big data contains business-critical knowledge about your company, your brand, your products or services. But that knowledge is not self-evident — elaborate data analytics need to take place before that knowledge can be accessed.

With large amounts of information flowing in from innumerable sources, organisations are not only faced with managing this information, minimizing risks and maintaining regulatory compliance, they also need to find ways of understanding their customers, suppliers and employees, identifying their needs, improving services and building a strong stakeholder community around them.

That was then, this is now

Once upon a time the customer lifecycle for a product or service was dependent on mass advertising — the launch of a marketing campaign to reach large numbers of people through various media including television, radio, newspapers and the Internet. Such campaigns were hit–or-miss affairs because business questions revolved around grabbing people's attention.

Nowadays, businesses are oriented towards better understanding the characteristics peculiar to each and every one of its stakeholders, whether they are customers, employees, shareholders, suppliers, or government agencies.

Business questions no longer revolve around how to grab people's attention; they are about managing each stakeholder by focusing on their engagement and creating a community around the business. This means coming up with strategies on how to acquire, convert and serve new customers, suppliers, employees, shareholders and the wider community.

It also means asking how to grow your business by knowing the products or services your community wants or needs, how are you perceived by your stakeholders, and how do you stay ahead of the game to solidify and grow the community around your organisation.

How a business approaches such opportunities is based on their strategy and on the data available to them.

Big data: creating a community around your organisation

Now more than ever before a corporation or company that does not have in place a strategy for creating community will not prosper. It will instead dwindle in size and value and is destined to disappear if it does not deploy the means to creating a strong stakeholder community. And big data can help. What will make the competitive difference is the degree to which an organisation is prepared to embrace the challenges presented by big data.

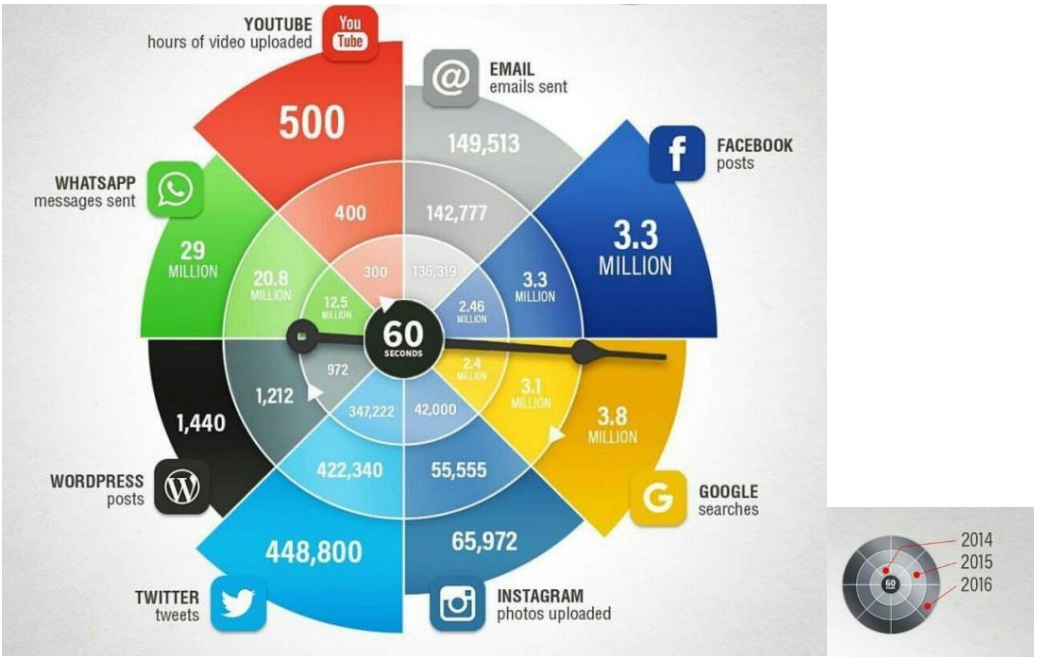
By leveraging on big data, companies can now analyse in real time (and over time) the perception by various stakeholders of their brands, products and services, their position in the marketplace, and the extent of their leadership in the community.

Organisations cannot underestimate the importance of implementing adequate strategies for collecting and analysing data that would support them in building a solid community of stakeholders, because what communicates true leadership, and what best motivates people's choices, is the value your company provides to the overall wellbeing of the entire community.

Big data. How big?

Big data is mind-boggling. The graph below illustrates the amount of data that entered the net during 2014, 2015 and 2016 in just 60 seconds

Figure 1: Smart-Insights infographic. What happens on line in 60 seconds?



The number of Google searches, Facebook posts and WhatsApp messages sent in a mere 60 seconds is truly phenomenal! And showing the statistics over a three-year period provides a distinct view of the magnitude of big data.

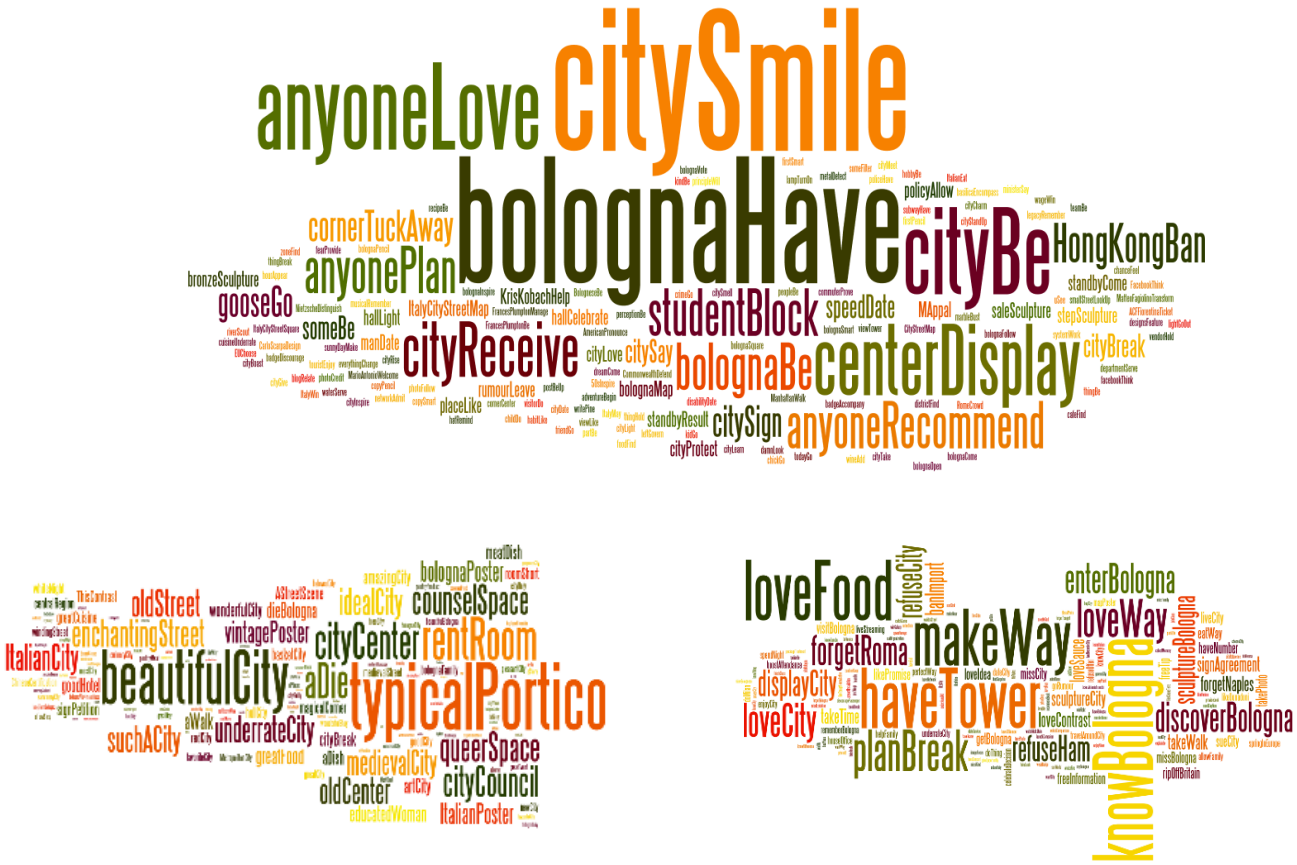
Only with the support of specific technology is it possible to collect what is relevant and gain meaningful business insights from it. This is where the "Cloud Concept" and "Network of Concepts" play vital roles.

The "Cloud Concept"

The Cloud Concept allows for easy understanding of complex scenarios, highlighting the main concepts and their relationships within the Big Data ecosystem.

For example, when Explora™ was used to assess how visitors experienced the city of Bologna in Italy, it discovered that «anyone loves» and «recommends» a «city» that «smiles». The Cloud of Functional Relations shows how people «plan a weekend» in Bologna, to «discover» it, its «winding» and «enchanting streets», «loving its food» and the «typical porticoes». Yet when analysing comments posted on Twitter and Facebook, it revealed that visitors generally had initially «underrated the city».

Figure 2: Cloud concept graphic sample. Bologna city as seen by visitors.



The generic Concept of Cloud can be refined to refer only to "verbs" and/or "adjectives", including "positive" and/or "negative" comments.

This can have multiple applications in many aspects of the corporate world. As an example, the analysis of some specific factors could highlight whether a change in a company's leadership and the appointment of a new CEO would either "disorient" or "reassure" the "financial markets".

The "Network of Concepts"

The application of Natural Language Understanding (NLU) is based on the same approach used by humans when reading a document, i.e., understanding of textual contributions by:

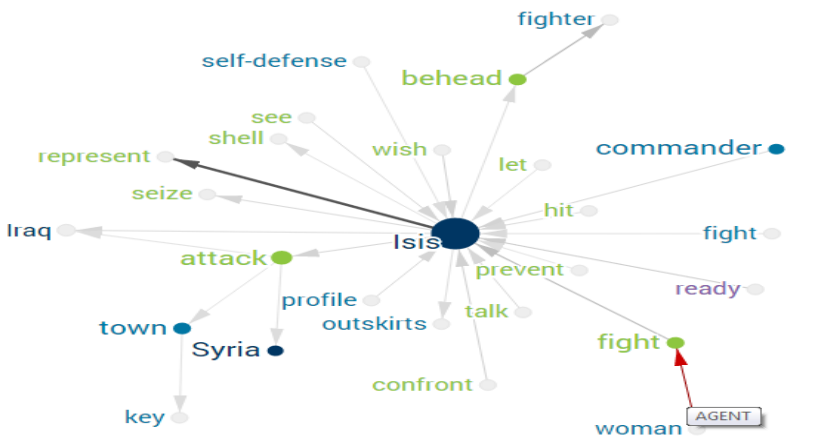
- Morpho-syntactic Analysis to remove any lexical ambiguity
- Semantic Role Analysis to understand Who Makes What, When, Where, How
- Semantic Analysis to remove any ambiguity in interpretation
- Statistical Analysis to find hidden pattern of information

The Concept Cloud simplifies the understanding of complex scenarios, highlighting the main concepts and their relationships.

In the case of «ISIS», for example, some people associate the «islamic» «terrorists' threat» to Iraq and Syria, but also to "self-defense" when posting comments in Twitter and Facebook.

The Network of Concepts highlights the role played by each concept, and it allows you to navigate through the data.

Figure 3: Network of Concept graph. Linking words together.



When the network of concepts is applied to "ISIS", one discovers that:

- «women» «fight» «ISIS», which «attacks» «key» towns» in «Syria» and «Iraq»
- «ISIS» typically «beheads» «fighters» and enemies
- Population chooses «self-defense» against «ISIS»

Brand perception and business insights: Introducing Explora™ by Integris

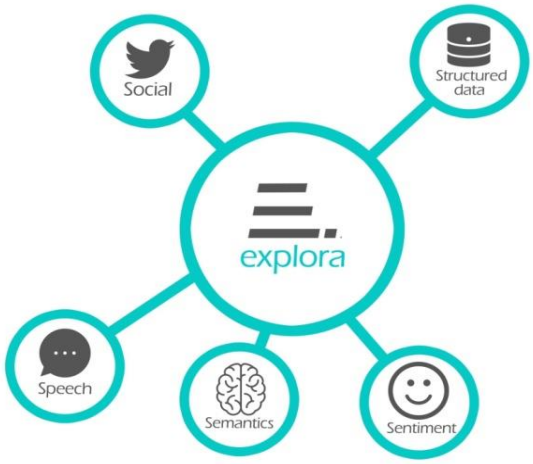
One of the hallmarks of Nixora Group is that we operate in partnership with industry-leading technology providers to deliver value-added implementation and advisory services that bring innovative business solutions to the banking and finance industry.

Nixora partners with Integris, a leader in cognitive technology and artificial intelligence, for the implementation of Explora™, a first-of-a-kind 5-S Cognitive and Analytics platform, based on Language Intelligence technologies — Automatic Speech Recognition (ASR), Natural Language Processing (NLP) and Natural Language Understanding (NLU).

This is a platform based on language intelligence technologies where 5-S stands for:

- Social
- Semantics
- Sentiment
- Speech
- Structured data

Explora™ allows you to analyse all of that 'mind-boggling' data and extract what is relevant to your business question. More importantly, it helps you understand what can be done with it.



Explora™ platform can be used for:

- Sentiment Analysis
- Brand Reputation Analysis
- Radicalization Analysis
- Semantic Search
- Media Monitoring & OSINT
- Competitive Analysis
  (Competitive Intelligence & Technology Watch)

It produces insights that lead to better understanding of brand and product perception, customers and business trends, and to making better business decisions. It includes a unique cognitive analytics platform that has four components: Text, Speech, Image and Data.

From Words to Concepts and Roles

Explora™ platform allows you to collect, research, analyse and extract knowledge from unstructured data such as news, posts, comments, conversation and generic texts.

Automatic text comprehension is provided by advanced Cognitive Computing technologies based on grammar (or part-of-speech tagging), logical analysis, semantic analysis, sentiment analysis combined with descriptive and predictive analytics. Natural Language Understanding (NLU) is based on the same approach used by human beings when reading a document.

It helps to automatically understand textual contributions by:

- Morpho-syntactic Analysis to remove any lexical ambiguity
- Semantic Role Analysis to understand Who Makes What, When, Where, How
- Semantic Analysis to remove any ambiguity in interpretation
- Statistical Analysis to find hidden patterns of information

Explora Text™ provides easy access to large quantities of data. It allows for:

- Collecting multimedia data (texts, audio & videos) from the Web (social networks, blogs, forums, news portals, etc.), Intranet (DB, filesystem, email), DarkWeb (TOR nets)
- Detecting facts and opinions, identifying Who Makes What, Where, When, How by Speech & Semantic Analyses
- Searching for data, information, key words and sentiment around them
- Classifying data by Supervised & Unsupervised Learning from Clustering

The other components of Explora™ Platform:

Explora speech Automatically transcribe spontaneous speech, as well as speech coming from both audio and video recordings, which is then processed by the text analytics modules. The technology is available in two versions: Explora Speech Server allows for batch transcription of audio and video files; and Explora Speech Live is the leading system in the market as it provides real time transcription of streaming audio and video.
Explora data This component is built to analyse very large amounts of data stored in any type of storage and format (Database, XML, CSV and log files) for analyses using descriptive and predictive analytics strategies. It provides advanced customer behaviour analysis - based, for example, on data entry logs - to support both business and operational solutions.

Brand perception and critical insights at a glance

Nixora and Integris use cloud computing to provide easy access to information and immediately identify problems and drivers.

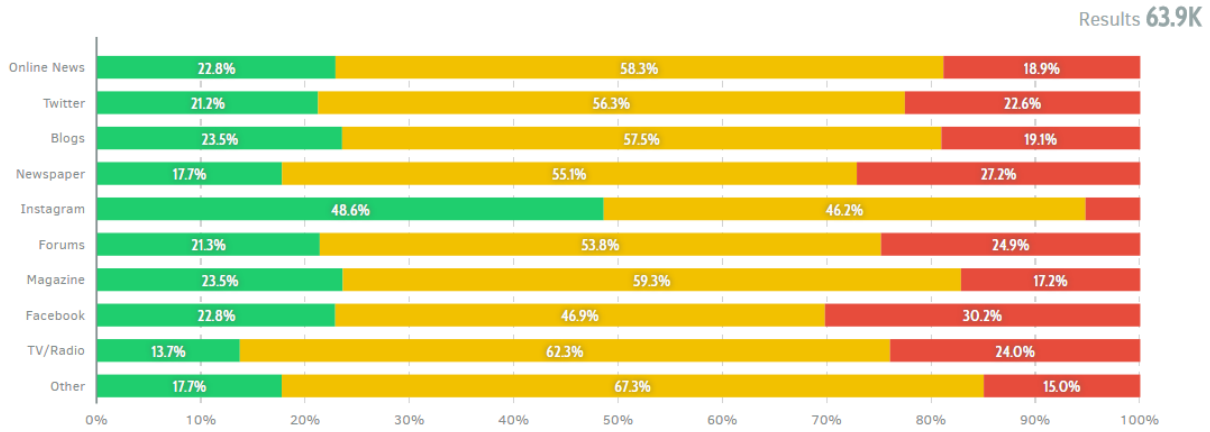
Data comes from multiple sources: online news agencies, social media (Facebook, Twitter, YouTube), magazines, television and radio, and more.

The platform can help you to detect how many times a product or brand is mentioned across all sources, and the adjectives or key words people are using to describe that product or brand, how many times those words are used and how they are connected one with the other.

Some of the outcomes are represented in “cloud concept” diagram format for immediate comprehension; others are represented in the format of “network of concepts” allowing not just the immediate identification of problems, but also of their drivers.

Furthermore, analytics reports can be based on multiple sources or just one specific source, as, for example, by looking at data only from Facebook. It allows users to discern at a glance whether customer sentiment about a product or brand is negative, positive or neutral, and how that sentiment has changed over time.

Figure 4: Customer/Brand sentiment by source (positive/neutral/negative)



This can be provided by type of source, gender, regional areas, language, and through time.

It helps in understanding how to better manage your customer lifecycles, your brand and product perception by knowing in real time what customers, suppliers, employees and others think of your product, brand or even your organisation’s culture.

The potential is enormous, depending on your organisation’s objectives.
It can help explore and determine the attitude of an individual or group regarding a particular topic or an overall context – be it a judgment, evaluation, or emotional reaction – from text, video, or audio data.
It could highlight potential illicit acts or criminal episodes that could undermine the reputation of a company/brand. For example, by identifying companies and people related to illicit acts, linked to a given company or brand, or by evaluating the reputational risk and giving a prompt alert.
It could also identify the anger and the extremist propaganda in Social web interactions, becoming a tool for tracking and detecting phenomena of brand radicalization.

Whatever valuable insights your organisation would like to extract from Big Data, talk to us today and we will open to you a world of possibilities.

Nixora Group is the Big Data Services Partner of Integris S.p.A. in Australia and New Zealand. If you would like to know how to take full advantage of Explora™, call us today for a consultation and for a proof of concept of Nixora Big Data Services value proposition.

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