



# From electronic markets to data driven insights

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## Abstract

25 years back the new frontier were Electronic Markets. The ‘Internet Revolution’ was in its infancy and many of the tech behemoths not yet founded. Today we are at the dawn of the next fundamental technology shift: Artificial Intelligence. The paper argues that insights generated from analyzing data with AI will become the new ‘nervous system’ of any company.

**Keywords** Electronic markets · Artificial intelligence · Big data

“Business Models for Electronic Markets” was a paper by Paul Timmers (Timmers 1998) published back in 1998. At the time we only just started to speak about electronic commerce. He highlighted early public attention of consumer-oriented models like Amazon. The paper also discussed early pilots in various business-to-business applications. What was at that time in its infancy is a commonplace 20+ years later.

What is next? What is today being talked about, with some initial pilots going and a fancy name?

Artificial Intelligence.

The hype around AI over the past few years has been astonishing. Almost immediately it got introduced into every conversation about technology and the future, and just as quickly there was widespread hyperbole attached to it: From the end of the world as we know it to the dawn of the true meaning of mankind. And just about everything else in-between.

Vast computing power multiplied with clever algorithms holds great promise, indeed. Yet it is important to note that AI without human input and quality data is just an ingenious theoretical construct. David Bray thinks AI’s power and potential arises from pairing humans and machines, so that “the human is learning from the machine and, at the same time, the

machine is learning from the human” (People-Centered Internet 2019).

It’s what we call for some time “Augmented Intelligence“.

Augmented intelligence is defined (Whatis 2019) as an alternative conceptualization of artificial intelligence that is designed to enhance human intelligence rather than replace it. Effectively this means people and machines working together, rather than the perception of AI as something that will see machines replace humans.

This partnership will see the augmentation and extension of human decision making, addressing deep and specific challenges within business (as opposed to the more general approach of AI) and will provide a new level of business insights and actionable next best action recommendations. It’s a powerful proposition and one that has the potential to transform business.

The Insights Economy

Today only one in 10 businesses are currently insights-driven, as research from Forrester Research recently revealed (Hopkins et al. 2018). This means an astonishing 90% of businesses are not deploying insights right now. The same research shows that 90% of all data available is not used for decision making (Alphr 2019).

At the same time research shows that companies basing their decisions on data are likely to report 15% or higher year on year revenue growth (Forrester 2016). Thus, the economic benefits of becoming an AI-driven insights business are irresistible. To drive such an evolution of data analytics a reframing of the customary Business Intelligence (BI) approach is required.

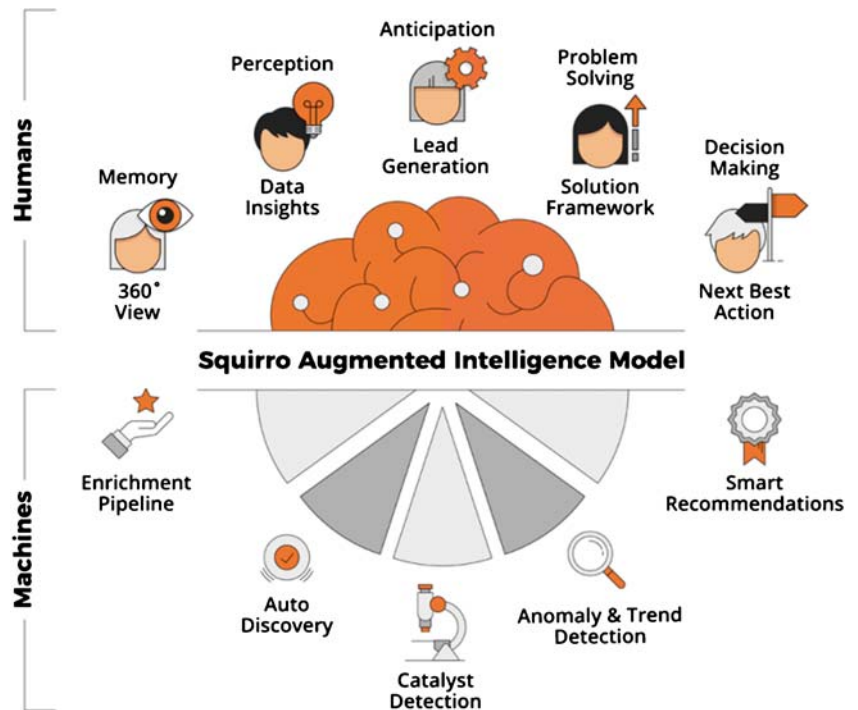
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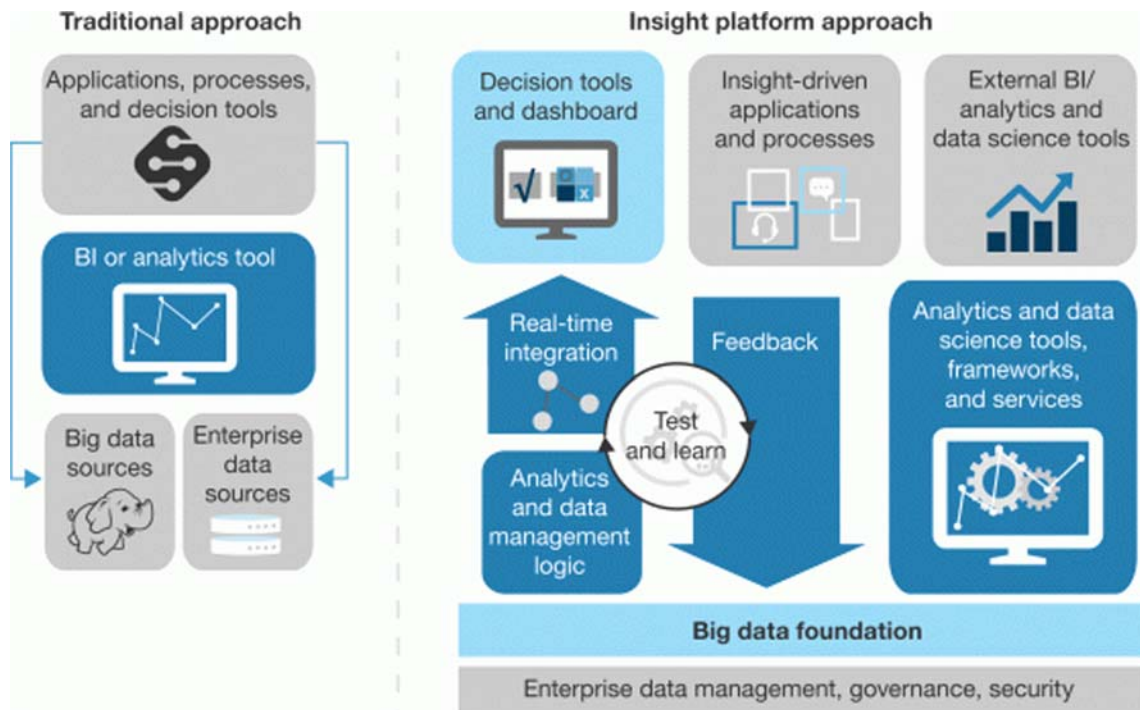
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**Fig. 1** Augmented Intelligence: Combining Humans and Machines (Squirro 2018)



Traditionally a BI system plugs into enterprise data repositories. A data analyst will then drive the analysis on input given to her by management. The results are reported to the requester, who in turn will turn them into action. This person merely represents what is

happening in the market, e.g. a sales manager. But she is not the company’s customer herself. Hence there is no closed feedback loop and any change will take time to trickle down and eventually to show up in the data that will be used to verify the target result.



**Fig. 2** The changing approach in analytics: From a unidirectional BI to a real-time closed loop (Own figure & Digital Insights Are The New Currency Of Business, Build Systems Of Insight To Consistently Turn Big Data Into Business Action; Brian Hopkins et al., Forrester, April 2015.)

In an insight driven business this process is transformed into a closed loop system: Step 1 – Discover insights and rank them by relevance; step 2 – embed these insights into the daily work environment of business users and the applications and software with which customer engage with the business and step 3 – put in place an AI system to continuously learn from the results.

Companies with such leading-edge analytics, or how we prefer to call them, Augmented Intelligence Systems view their insights as assets, as a new ‘currency’ to drive their business forward and create value for their stakeholders. They bring insights, not just data, into every decision across the entire customer life cycle. They quite often disrupt their market space.

A well-known example is 20 years later again Amazon. Its recommendation system – people who bought this also bought that – significantly increased customer loyalty and has been a key revenue driver over the years.

#### AI’s long and winding Road

For this future to be the new norm, data needs to know about its own meaning and its contextual relevance. It morphs into Insights. These Insights need to be enabled to find their way to their best possible destination – automatically.

Insights thus become like the nervous system of a company. This nervous system will be an intelligent, self-aware software layer that will power any company in a not so distant

future. Most companies have not started this journey or are in pilot mode at best.

We are at the start of an as exciting journey as the one we started 20+ years ago when we wrote about Electronic Markets.

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