

EXECUTIVE BRIEF

THE BIG DATA JOURNEY - FROM EXPERIMENT TO ENTERPRISE SCALE PRODUCTION

THIS EXECUTIVE BRIEF IS A SUMMARY OF THE WEBINAR:

Big Data Innovation – From Experiment to Production

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INTRODUCTION

- Big data is more than the 3 V's (volume, variety and velocity) according to 451 Research's 'Total Data' concept. It must also consider what an organization wants to do with its data and the changes in the approach of these organizations in order to realise the true value of their data.
- Three key questions companies should ask themselves about big data:
 1. How to connect the right data to the right people in the organization
 2. How to collect data and manage it in a secure way
 3. How to provide new and better insight into data in order to achieve a business outcome
- A large number of enterprises are experimenting with big data and Hadoop-based projects. Often driven internally by functional areas within the organization, success with these projects presents a bigger question of how they migrate to the bigger goal of the organization, which is focusing on large scale, strategic deployment of big data, driven by business goals rather than IT.

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BUSINESS BENEFITS

- Opportunities for enterprises innovating with big data initiatives include significant cost savings - driven through improved operational efficiencies by analyzing and acting upon information about the performance of the business.
- Organizations that have been successful with big data have cited the primary benefit as 'accelerated time to market'. Identifying their most valuable customers and rapidly launching special programs to boost loyalty has been a goal of organizations for years. Big data technologies and the right approach now makes this possible.
- Businesses that take a different approach to exploring their data, using for example predictive analytics, are not limited to answering the same old questions about their data. This allows them to reap the benefits of discovering new applications and new ways of generating value from their data.
- Organizations that are aggregating, managing and experimenting with big data are using their findings to build analytical models that power business focused applications and predictive analytics.

KEY POINTS

- Experimentation with big data, which is really about innovation, entails providing data to the right people at the right time in order for them to experiment, ask questions that they could not ask before and provide an environment where it is acceptable to fail fast.
- 5 must-do's for successful transition to enterprise scale big data:
 1. Think big, start small
 2. Encourage innovation
 3. Encourage data sharing
 4. Identify business case
 5. Avoid data silos
- Big data innovation is being driven by economics - it's now more economically feasible for organizations to store and process data that was previously ignored. This is due to the cost and functional limitations of traditional data management technologies.
- Today's data environments demand a big data strategy that can provide seamless access to and manage different data types within relational, Hadoop and NoSQL databases, in a fast, efficient and reliable way.
- Organizations want to be able to analyze their data more frequently, regardless of the rate at which it is produced. This is illustrated by 451 Research's observation of companies performing real-time analysis of their data before storing it in a data warehouse.
- Big data strategy should take into account the existing investments organizations have made, for example in relational databases, BI, storage, and MDM. Any new data technologies, applications or workloads will have to co-exist with existing technologies, or better still, take advantage of these investments as well.
- Big data experimentation in organizations needs to move beyond just proving the technology. There needs to be early identification of a business case around any investment for it to be successful.
- Companies innovating using big data are focusing on employees within their organization that are enthused by change, have a desire to learn about new technologies and new approaches. They identify these people and reward them for their willingness to experiment and generate value.
- A large soft drinks manufacturer overcame the internal resistance to share big data analysis and results between functional business groups by:
 1. Physically moving people around so that the champions-of-change positively impacted others
 2. Widely shared data success stories, openly communicating the benefits to the company and individual business units

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CHALLENGES

- Companies embarking on their first big data and Hadoop projects need not only to prove that the technology works, but they must quickly identify the second and third business cases so that they can justify the infrastructure investment that will be required to turn concepts into production deployments.
- An ongoing requirement within organizations innovating using big data is the need for domain knowledge - people with the expertise to be able to take advantage of new technologies and tools so that the organization derives value from its investments.
- For big data experimentation to be a success, business users that understand the business impact and business needs must be able to interact with this data, manipulating it in an easy and efficient way.
- Big data experimentation is taking place across multiple groups within organizations around the world - but unless the cross-unit sharing of data analysis and results is encouraged, multiple new data silos are created.

CASE STUDIES

- Yahoo's early use of Hadoop is an example of the best way to move from experimentation to production. It began with a specific case of storage of data on web searches. The data cluster was then opened to analysts and developers for experimentation and new application development, in turn expanding the volume of data stored.
- A multinational bank identified opportunities in investing in Hadoop and big data. Lacking in what they perceived as an existing skills base, a 24-hour code competition was sponsored to encourage interest and innovation amongst their developers and engineers. Multiple benefits proved inexpensive, resulting in fast proof-of-technology concepts and identification of motivated employees.

ORACLE'S OFFERING

(Key points on company offering made by Oracle in the webinar)

- Successful big data initiatives require a mechanism that allows the capability to collect all different types of data (static and streaming), from multiple sources (internal and external), to cleanse the data and transform it into a way that its users are able to consume.
- Big Data SQL is Oracle's solution to accessing all enterprise data using SQL, including across Hadoop and NoSQL databases. A key benefit to enterprises is the preservation of investments in existing applications and in-house skills whilst allowing them to incorporate Hadoop and NoSQL into their production environments.
- Big data is a journey. Organizations are at different stages of that journey. The key is to work with a big data platform solution that helps the business along that journey, from innovation to production.
- The largest domestic bank in Spain, CaixaBank, implemented Oracle's big data solution to help it remain at the forefront of innovation in the financial sector. New services were delivered to its customers by leveraging previously unknown insights, gleaned from multiple data sources.
- Big data is helping organizations detect fraudulent usage of services - take TurkCell for example, with 35M customers and 1.5B events daily, since deploying Oracle's Big Data platform there has been a 4 hour reduction in analysis time to detect fraudulent activity.

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TAKEAWAYS

- Five challenges organizations need to overcome when moving from experimentation to production with Hadoop and related big data related projects:
 1. Failure to identify the business case
 2. Internal resistance to change
 3. Lack of skills in-house
 4. Cost of hiring these skills
 5. Lack of strategic buy-in
- Identifying a business case in the early stages of experimenting with big data will avoid getting stuck in the technology proof-of-concept cycle.
- Big data and Hadoop related projects must co-exist with and complement existing data processing infrastructure such as data warehousing, relational databases and BI analytics. This is an integral step in the big data journey. Failure to integrate creates silos and will result in disillusionment.
- Failing fast when experimenting with big data is crucial. But innovation requires an ability to integrate the experiment's findings into the SaaS layer, fast and efficiently. A big data platform that has deep integration between the layers will allow this.
- Data without context does not really have much value. But when for example, data is combined with customer profiles, it provides insights that can be used to change business processes and positively impact results. This is where innovative companies are winning with big data.
- Business outcomes from big data are what count. Everything else is noise.

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