WHITEPAPER

“Data-as-a Service - New Business Paradigm Across Organizations”

Roundtable conducted on **August 6, 2020**
by **Analytics India Magazine** in association with **Snowflake**

INTRODUCTION

Business strategies, operations, and insights have all considerably changed since March 2020 as a result of the unfortunate pandemic. The recessionary environment has altered industry outlooks; moreover, the ever-changing forecasts of sales and operations have made business models and insights unpredictable. However, **an interconnected digital ecosystem is the one true constant that has emerged in this uncertainty.**

This has resulted in a transformation across enterprises that is:

- Enabling enterprises to operate and transact with their customers despite the challenges
- Allowing organizations to proactively adapt to this transformation or any future changes

In a digitally interconnected business environment, access to data and networks is of utmost importance as the analysis of data cannot be adversely affected by disruptions in business services. Thus, **Data-as-a-Service or DaaS,** has emerged as the new model that enables enterprise and non-enterprise users to access data on demand over a network or the cloud.

DaaS empowers the seamless exchange of data between internal and external stakeholders – all in real-time.

To discuss the emergence of DaaS as a new normal and to explore its impact on Data Analytics, Analytics India Magazine, in association with Snowflake conducted a Virtual Roundtable on Data-as-a-Service – New Business Paradigm Across Organizations on August 6, 2020.

Agenda Covered:

- How DaaS Transforms Data Analysis
- Current State of DaaS Across Enterprises
- DaaS in India – Current State and Future
- Path to DaaS Adoption – Challenges and Enablers

TECHNOLOGY IS TRANSFORMING HOW DATA IS UTILIZED

> **"Analytics is gaining such importance across enterprises that employees now need to assume the role of data and insight analysts and take decisions based on data."**

VIMAL VENKATRAMAN
COUNTRY MANAGER – **INDIA, SNOWFLAKE**

Technology and digital adoption have transformed the business operations of enterprises, in terms of the ways in which data is now generated, accessed, and analyzed by enterprises and firms. Moreover, 3 key technology trends have transformed how businesses generate and utilize data:

- **Rise of the Cloud:** Adoption of cloud computing has provided the ability and technology to scale and centralize data
- **Increase in Data Generation:** IoT, Digital Platforms, Online Transactions, Smartphone Usage, and Social Media are providing new sources of data, giving new opportunities and perspectives of generating insights and analysis
- **Diversification and Democratization of Analytics:** Analytics is constantly carried out and leveraged across all enterprise types and functions. Data is no longer unique to certain departments as all employees simultaneously generate and seek access to data.

To grow and deliver value, all businesses need to process and utilize hard facts and data – moreover, enterprises are enabling access to actionable data to employees. By instituting these diverse measures to analyze data, enterprises are driving business impact across:

- Effective Business Decision Making
- Costs of Data Management and Analytics
- Customer Experience and Relationships (Internal or External Customers)

Journey to the Cloud Data Platforms

The development of Cloud technologies and access to data platforms over the cloud has enabled the emergence of Data-as-a-Service (DaaS). **The journey to the cloud data platforms has progressed from:**

On-premise Enterprise Data Warehouse solutions -> First-Generation Cloud-based Data Warehouse solutions -> Data Lakes -> Modern Cloud Data Platforms (DaaS)

Modern Cloud Data Platforms

Modern cloud data platforms, such as Snowflake, can utilize structured and semi-structured data. These platforms are targeted to all users, enabling the users to access data across the organization, and empowering users to analyze and make better decisions from the data. Proficiency of different programming languages and platforms is not required to manage or operate the modern cloud data systems such as Snowflake.

> **"In these times, when it is difficult to visit an office or a data centre location, cloud data platforms such as Snowflake add value by making it easier for organizations to securely work with vast volumes of data."**
>
> **VIMAL VENKATRAMAN**
> COUNTRY MANAGER – **INDIA, SNOWFLAKE**

The modern cloud data platforms provide the following advantages to the stakeholders in the data environment:

- One Platform - irrespective of users and workloads
- Secured and Governed Access to Data
- Optimum Performance and Scale (scale up or down based on customer demand)
- Ease of use - cloud data platforms are provided as a service, hence there is near zero maintenance of the platforms.

"Data-as-a-Service (DaaS) enables the secure sharing and collaboration of data – whether within the organization, with external parties, or hosted on a public data exchange to enable data monetization (if desired)."

VIMAL VENKATRAMAN
COUNTRY MANAGER – **INDIA, SNOWFLAKE**

By Analytics India Magazine

HOW DAAS TRANSFORMS DATA ANALYSIS: LEVERAGING DAAS TO CREATE NEW ASSETS AND GENERATE REVENUE

Data-as-a-Service (DaaS) has enabled enterprises at various stages of the value chain to collaborate and share data on clients and consumers (within the confines of privacy and data protection). This sharing of data has enabled the prime stakeholders in the value chain to generate revenue from the data.

A primary case in point from the consumer / retail industry was provided in the roundtable. Most of the time product manufacturers do not have direct, first-hand visibility to the transactions and consumer purchase patterns. By selling products to customers, retailers and eCommerce firms are directly dealing with the consumers and have access to customer data – this enables the retail firms to determine consumer behaviour patterns with respect to product preferences and the volume of transactions carried out.

DaaS has enabled the creation of an ecosystem between all stakeholders, including Retailers, e-Commerce firms, and Product companies. Retail and e-Commerce firms analyze customer data and provide insights to the Product companies, including FMCG and CPG companies, Electronic firms, and Clothing and Apparels enterprises, to name a few.

> **"DaaS has enabled separate organizations from discrete verticals to come together to form a "Data Alliance" to generate insights – Retail and eCommerce firms are sharing data of customers' purchasing habits with the consumer product companies, such as FMCG and CPG firms."**

SHRIKANT KEJRIWAL
HEAD OF CONSUMER INSIGHTS AND ANALYTICS, FARM EQUIPMENT BUSINESS - **MAHINDRA AND MAHINDRA**

However, it is an established perspective that before the data can be monetized, it has to be available to the primary data stakeholder in a timely manner and in a form that the data can be leveraged at any place, on any device, and by any user.

> **"What are the opportunities available from the data … can the data be integrated, and can it be easily embedded in the digital and online applications for consumption and processing. Only once these questions are answered will the data be usable for the primary stakeholder to create new assets and generate revenue."**

VINAY GUPTA
HEAD OF DATA ANALYTICS AND BUSINESS EXCELLENCE - **SUZLON**

Another case related to online shopping was provided in the roundtable. Recommendation systems are based entirely on data. For eCommerce and online market place firms, recommendation systems have emerged as an additional revenue generator for these firms, which depend entirely on data:

- What products are the consumers purchasing
- What categories are the consumers browsing the most
- What is in the consumer's cart after a certain interval of time
- What are the consumers actually purchasing
- How much time are consumers spending on a product page etc.

By recommending products and pushing product recommendations that the consumers may eventually purchase, the eCommerce firms have created an additive streams of revenue.

"By integrating and utilizing the various data points of the consumer and channelling these through recommendation engines, e-Commerce and marketplace firms are able to utilize the DaaS systems to generate additional revenue from the data."

BHARTI PRASAD
ASSOCIATE DIRECTOR, CONSUMER LIFECYCLE MARKETING
- GROFERS

For certain functions that span across the organization, DaaS has created a value system for the enterprises by facilitating the collaboration of data. For example, product quality spans across the value chain, starting from Research & Development (R&D) to Manufacturing to Logistics and Supply-chain. DaaS has enabled the monitoring and collaboration of the quality of any product across the value chain in real-time.

"Till now, various functions in organizations existed in silos, however DaaS has created a scenario, in which, data across these siloed functions can be used not only for a particular use case but also for the entire enterprise, for e.g. research, manufacturing, and distribution systems across

RUCHI BHASIN
HEAD OF BUSINESS ANALYTICS (AUTOMOTIVE SECTOR);
PERSONNEL ANALYTICS (AUTOMOTIVE FARM SECTOR)
- MAHINDRA AND MAHINDRA

Organisations work with specialised vendors on different projects where they need data to draw relevant outputs. DaaS has enabled these entities to access data and utilize it for effective decision-making. Earlier the right data-sets had to be identified, accessed, and analyzed for generating customer insights. Now not only vendors but also partners, franchisees, and distributors outside the confines of the organization are able to utilize DaaS to access data, generate insights, and then serve their customers in a real-time and cost effective manner.

> **"DaaS has enabled entities outside the organization's ecosystem to have far more informed and enriched interactions with the customer. These entities no longer need to go back and forth for data analysis and insights. DaaS has enabled these entities to improve the customer experience."**

RAJIV MALHAN
HEAD OF REVENUE ASSURANCE - STRATEGY, DESIGN AND ANALYTICS **- ADITYA BIRLA SUN LIFE INSURANCE**

Nonetheless, the ability to generate revenue is contingent on the level of collaboration across the DaaS platform as many stakeholders are involved in the data ecosystem despite the data residing on a unified platform.

> **"Data value creation is contingent on the level and intent of collaboration across the Data stakeholders, including the data providers, enrichers, and end-users as many third-party stakeholders are involved in data analysis and insights."**

THADIKAMALA SHYLA KUMAR
HEAD OF DATA SCIENCES & ARCHITECTURE, SMART CITIES PLATFORM **- LARSEN & TOUBRO**

Hence, the intent to collaborate not only on the data but also the insights generated is a prerequisite for additive revenue generation on the DaaS platform.

By Analytics India Magazine

REGULATORY ENVIRONMENT IMPACT ON DAAS ADOPTION FOR CLIENTS ACROSS GEOGRAPHIES

Organizations with operations, employees, and customers across geographies have to seek selective permissions on the basis of each. These include permissions to store the data, the time period to retain or store the data, and any other requirements to refresh or change the data. Depending on whom the data belongs to and the geography where it resides, the required permissions need to be sought from the respective regulatory authorities.

> **"The geographic boundaries demarcate the usage and applications of data from a privacy and security perspective … Moreover, regulations in India now prohibit the sharing of customer data, residing within one organizational group or entity, with the other entities / businesses of the same organization."**

ROHIT PANDHARKAR
HEAD OF DATA SCIENCE - **MAHINDRA RISE**

In India itself, RBI regulations now prohibit the storage of customer data outside the geographical boundaries of India – a scenario that was completely different a few years ago when data could move freely across geographies.

So, while regulatory issues do not inhibit the adoption of DaaS, the movement of data across geographies is restricted and this requires adherence to strict data storage, masking, and cleansing procedures to ensure that DaaS platforms can be adopted and accessed across geographies.

Within certain organizations, including pharmaceutical companies, the movement of data across geographies is subjected to data integrity, security, and accuracy best practices - regardless of the nature and region of origin of the data.

Moreover, according to Vinay Gupta, Head of Data Analytics and Business Excellence - Suzlon, adoption of IEC27018 by cloud service providers is of paramount importance. IEC27018 is an industry standard that establishes commonly accepted objectives, controls, and guidelines for implementing measures to protect **Personally Identifiable Information (PII) in accordance with the privacy principles in ISO/IEC 29100.** The public cloud computing environment and cloud service providers are rapidly adopting this standard to comply with regulations covering the access of personal information on the cloud.

By Analytics India Magazine

BREAKING OF DATA SILOS FOR SUCCESS OF DATA-AS-A-SERVICE (DaaS) PLATFORMS

To ensure the success of DaaS platforms, data cannot reside in silos within organizations. The interoperability and analysis of data on DaaS platforms have to be carried out on a centralized, non-siloed environment, and to do so a culture of data sharing and data centralization has to be created before DaaS platforms are adopted within organizations.

The current environment of remote work is creating opportunities for synergies across several locations and departments. The situation of remote work or work-from-home, which the unfortunate pandemic has created, is bringing forth the concept and value of common, unified data platforms.

> **"The intent to break the data silos is a prerequisite to adopting DaaS as an idea. Value is generated from data as and when the data is connected... 'What is the data that is required from others and what is the data that can be shared' is a common principle that is breaking data silos."**
>
> **PHANI MITRA**
> VICE PRESIDENT OF ANALYTICS & STRATEGY - **DR REDDY'S**

Moreover, according to Phani Mitra of Dr. Reddy Labs, blended or connected data increase the chances of extracting better insights and features from the data. While organizations realise the need to break these silos, several organizations have adopted different approaches to blend the data. All in all, the culture or ethos of data sharing is critical, with DaaS or Cloud serving as a catalyst in the data sharing culture.

The current remote-working environment, due to the pandemic, has challenged all the basic assumptions of business operations. This has resulted in an environment of common problem-solving across organizations and adoption of analytics within the organization. This has been an important determinant in building the demand for DaaS.

"As the demand for data across functions has increased, the utilization of data enrichment services has also increased. This is creating a single pipeline of enriched data across the organization – thus breaking or removing silos."

RUCHI BHASIN
HEAD OF BUSINESS ANALYTICS (AUTOMOTIVE SECTOR);
PERSONNEL ANALYTICS (AUTOMOTIVE FARM SECTOR)
- MAHINDRA AND MAHINDRA

By Analytics India Magazine

LEVEL OF ADOPTION OF DAAS AMONG INDIAN FIRMS

In India, while large enterprises and conglomerates are utilizing data more than ever, the start-up ecosystem is now increasingly leveraging data to drive decision-making.

The corresponding adoption of DaaS platforms in India is increasing and is approaching the levels of adoption in developed economies. The development of capabilities in data analytics and DaaS began many years ago in India, and has fuelled the adoption of services and expertise in various areas.

> **"Across geographies, the US was one of the earliest adopters of DaaS and data-driven insights … In India as well, the relatively early adoption of data services has led to the creation of data banks that can now be leveraged to effectively analyze trends and generate insights for customers – all of these would lead to greater adoption of DaaS across enterprises in India."**

DR. MOHIT KUMAR GOEL
AVP OF DATA SCIENCE - **INFOEDGE INDIA LTD**

However, in terms of the maturity of DaaS adoption, the North America market, followed by the Western Europe market, has been an early mover in realising the potential of DaaS, in analysis and generating results through the monetization of data. Hence, the Indian DaaS market, although rapidly developing and evolving, still has some way to go before developing full-blown DaaS capabilities across organizations and industries.

"These markets (North America & Western Europe) have been able to create potent models out of the DaaS platforms and systems across various sectors, including financial, healthcare, energy, and social media sectors … In India both DaaS and Digital business models are still evolving and have not reached the full potential across industries."

VINAY GUPTA

HEAD OF DATA ANALYTICS AND BUSINESS EXCELLENCE **- SUZLON**

Moreover, it is important to understand the level of utilization of the various types of data and across DaaS platforms. For this, Vinay Gupta of Suzlon identified two types of data sets - **transactional data and IoT data.** While utilization and adoption of transactional data has been high, the utilization of IoT data is now steadily increasing. The generation of IoT data by the Energy and Power sectors, Consumer Appliance and Electronics sectors, and Manufacturing sectors, among others, is growing at a tremendous pace. The capture and analysis of the real-time IoT data is of major significance for organizations as this data can generate value across several sectors and functions for many enterprises.

The utilization of DaaS platforms to generate analysis and insights from the IoT data is below par. For example, the Energy and Power sector data, captured through IoT systems, can be effectively utilized for the Smart Cities initiative in India. This potential across the IoT data ecosystem is an area of growth and adoption for DaaS and the Digital platforms.

Nonetheless in India, specific use cases are emerging in terms of adoption of DaaS. Artificial Intelligence (AI) / Deep Learning based use cases are growing across other functions apart from customer focused use cases. These use cases, which include the areas of Computer Vision (CV) and Natural Language Processing (NLP), are heavily dependent on leveraging open-source algorithms and internet-based data sets. Access to these open platforms through on-premise platforms requires an additional layer of security. These use cases are driving the adoption of Cloud-based DaaS platforms, as DaaS platforms provide a strong layer of security for enterprises.

RETURN ON INVESTMENT (ROI) OF A DAAS PLATFORM

The various components of any DaaS platform are available on several on-premise solutions through various tools and products. The RoI or any benefit accrued from the DaaS platform is contingent on many factors, including the timing of the move to the DaaS platform from the incumbent on-premise tools.

The RoI calculation differs on the basis of the industry, the maturity curve, and the timing of adoption of the DaaS platform. A customer just starting operations and employing DaaS as a common platform at the very beginning of the data journey, has a different RoI associated with the implementation as against a customer implementing DaaS at a more advanced stage of operations. Once the operations of an enterprise are established, the costs of implementation of a DaaS system includes the costs of migration from on-premise to DaaS, subscription costs, implementation costs, and costs of other services.

The cumulative costs of services involved for both solutions is also a crucial factor while comparing the RoI of a DaaS platform vis-à-vis an on-premise solution.

Intangible Benefits of a DaaS Solution

The true measure of the RoI should factor both the tangible and intangible benefits of the DaaS solution as against the on-premise solution. For any solution the tangible cost components include implementation costs, service costs, subscription costs, maintenance costs, and training costs. Apart from tangible costs, it is important to measure the intangible benefits, including **Time Taken to reach a Decision, Benefit of the Decision, Employee Engagement and Satisfaction, and most importantly Customer Engagement and Satisfaction.**

Considering the intangible factors of any solution, the **return or recovery of investment of the DaaS solution is contingent on how the Solution provides Enhanced Customer Satisfaction and Employee Engagement.** In terms of overall RoI, DaaS solutions prevail over on-premise solutions as the improvement in customer experience is almost immediate once the DaaS solution is utilized for all the relevant functions and use cases of an enterprise.

Hence, while factoring the RoI of DaaS, the costs of not implementing the DaaS should also be factored. The costs of not moving to a DaaS solution, in terms of lost business, reduced productivity and lower relative customer experience, are a lot more than the tangible costs of TCO and implementation of a DaaS system.

DATA SECURITY

Security of a DaaS platform is of paramount importance, given that the data resides on the cloud data platforms. DaaS platforms, such as **Snowflake, have inherent security standards, which include data encryption, compliance, and privacy.** Moreover, DaaS platforms enable the clients and customers to enable their own encryption keys, over and above the encryption feature that the DaaS platforms provide.

Breaches in data security that do take place across DaaS platforms typically occur because of lapses in data compliance, access, and authorization rather than the issues related to data security in the DaaS platform.

Moreover, as the data is available on the cloud, data access is a lot more widespread than when the data is on-premise. Typically, issues in the last mile data access can lead to data breaches. To solve these issues, enterprises should place robust standards related to data access and data governance, and carry out regular audits of these standards.

CONCLUSION

DaaS or Data-as-a-Service is transforming data analytics functions across industries and enterprises. This transformation has, however, been aided by the current remote work conditions prevalent across the globe. Nonetheless, the scale and rate of data generation by digital platforms, social media, financial transactions, media, and IoT is fuelling the demand of data access and interoperability across DaaS platforms.

Moreover, the data environment now covers almost all employees and stakeholders of an organization. By enabling data democratization and access to the tools to carry out actionable analysis, DaaS platforms have facilitated a data revolution across enterprises.

Finally, in terms of delivering value to consumers and to entities outside an organization, it is important that DaaS platforms are utilized by enterprises as these platforms provide immediate access to data and actionable insights that previous generations of data analytics platforms could not. **This level of access to all stakeholders in an enterprise is what has enabled DaaS to emerge as a new normal across the data environment.**

About Analytics India Magazine

Analytics India Magazine has been a pre-eminent source of news, information, research and analysis for the Indian analytics ecosystem since 2012. It has been dedicated to passionately championing and promoting the analytics ecosystem in India. AIM chronicles the technological progress in the space of analytics, artificial intelligence, data science, big data by highlighting the innovations, players in the field, challenges shaping the future and more. With a dedicated editorial staff and a network of more than 250 expert contributors, AIM's stories are targeted at futurists, AI researchers, data science entrepreneurs, analytics aficionados and technophiles.

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