Capitalizing Predictive Analytics for Improved Operational Insights

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"The challenge for IT operations," Gartner says, "is to develop a meaningful set of measures and results provided to the business and important to the business stakeholders.

Introduction

IT and IT operations have seen tremendous growth as well as pits in the recent past. To analyze the future of IT operations and its effectiveness, predictive analytics has been looped in. It helps analyze historical data to predict an adverse event likely to occur at some point in time. Using predictive analytics organization can pre-empt action, based on anticipation, and mitigate risks in IT operations. With both science and statistics playing their part well, predictive analytics aid in making better decisions and accurate solutions. Managing old and new technologies, aligning IT services and business strategies according to the changes have always been a tedious job. Gartner, the technology research and advisory firm lists key issues in IT service :

- How will IT operations define IT services? How the same will be brought in line with business values?
- How IT services will be measured across the multi-sourced environments?
- IT operations never witness a unified view.

Rather than spending resources on IT related activities, the management should align focus on the objective and the business impact it creates.

IT Operation Analytics (ITOA) helps IT companies achieve competitive advantage. It helps in making decisions related to IT infrastructure with the business impact inline. ITOA's major focus has always been to prevent issues or problems that affect the business revenue. The overall challenge and considerations is to analyze and reduce business impact. One promising method that can help achieve the desired objective is Predictive Analytics.

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Predictive Analytics

Predictive analysis comprehends and projects the future conditions of data analysis and patterns. IOTA focuses on the revenue related services of businesses and is thus vital, as it deals with the management of IT environment, be it complex, virtual, distributed or cloud related.

IT environment's major task has always been to resolve the issues which would impact their end-users. The predictive capabilities, if enforced, would ensure that IT servicing meets the customer's trust, without any dependency on individual staff, user location or the various access levels.

By analyzing historical data patterns, potential failures can be easily predicted at all levels and relevant pre-emptive actions and alerts can be generated. Predictive analytics thus secures IT services leaving end-users unaffected and businesses to continue as usual.

IT Operations

IT operations can be broadly classified into service support, monitoring, automation and business values of the services. Predictive analytics when used across the following functions ensure:

- **Support –** Up-to-date notifications and alerts, automates knowledge management and assists in collaborating details.
- **Monitoring –** Predicts application behavior, root cause analysis, aids in discovering business opportunities and improvements.
- **Automation –** Optimizes workflow, reduces the workforce management, generates automatic alerts to reduce ambiguity.
- **Business Values –** Optimizes workflow, reduces the workforce management, generates automatic alerts to reduce ambiguity.

Using predictive analytics would help in keeping the system proactive. It would help increase uptime, analyze issues and related information to drill down to the root cause and predict the system's future.

Predictive Analytics in IT Operations with Disparate Data

Analytics can be used worldwide in any vertical that has recorded history and which can be leveraged to anticipate future environment and patterns. When it comes to IT, there are various levels where predictive analytics would play a major role –from predicting an outage in the near future, to sensing unavailability. Alerting the corresponding, to tracing the root cause of an issue, analyzing the system logs to predicting steps needed to resolve the issue. Predictive analytics would help save IT operations from security breach, aid in disaster management and reduce IT operational costs.

Big data provides the ability to integrate disparate data entities and IT systems. It enables a mechanism that provides in-depth analysis and insights. The differentiator here shall be an effective system that can collect variety of data while maintaining data integrity. It should have the ability to run customized analytical algorithms around the common metadata. The objective is to deliver individual and accurate forecast to different customers. Every customer's data set and environment is unique and thus, each algorithm should be self-learning, with the ability to recalibrate based on the input of new data sets from customers. This makes the analytical results more relevant to the data as

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its model is customized based on the new data set.

Yet another challenge in IT is disparity in data and thus, the need of a system that can integrate all data types and provide accurate forecasts. The inflexibility in other analytics such as business intelligence (BI), have made predictive analytics the popular choice. The advantage of using predictive analytics in analyzing IT operational risk is estimating the outcome with all types of data, as illustrated in figure 1.

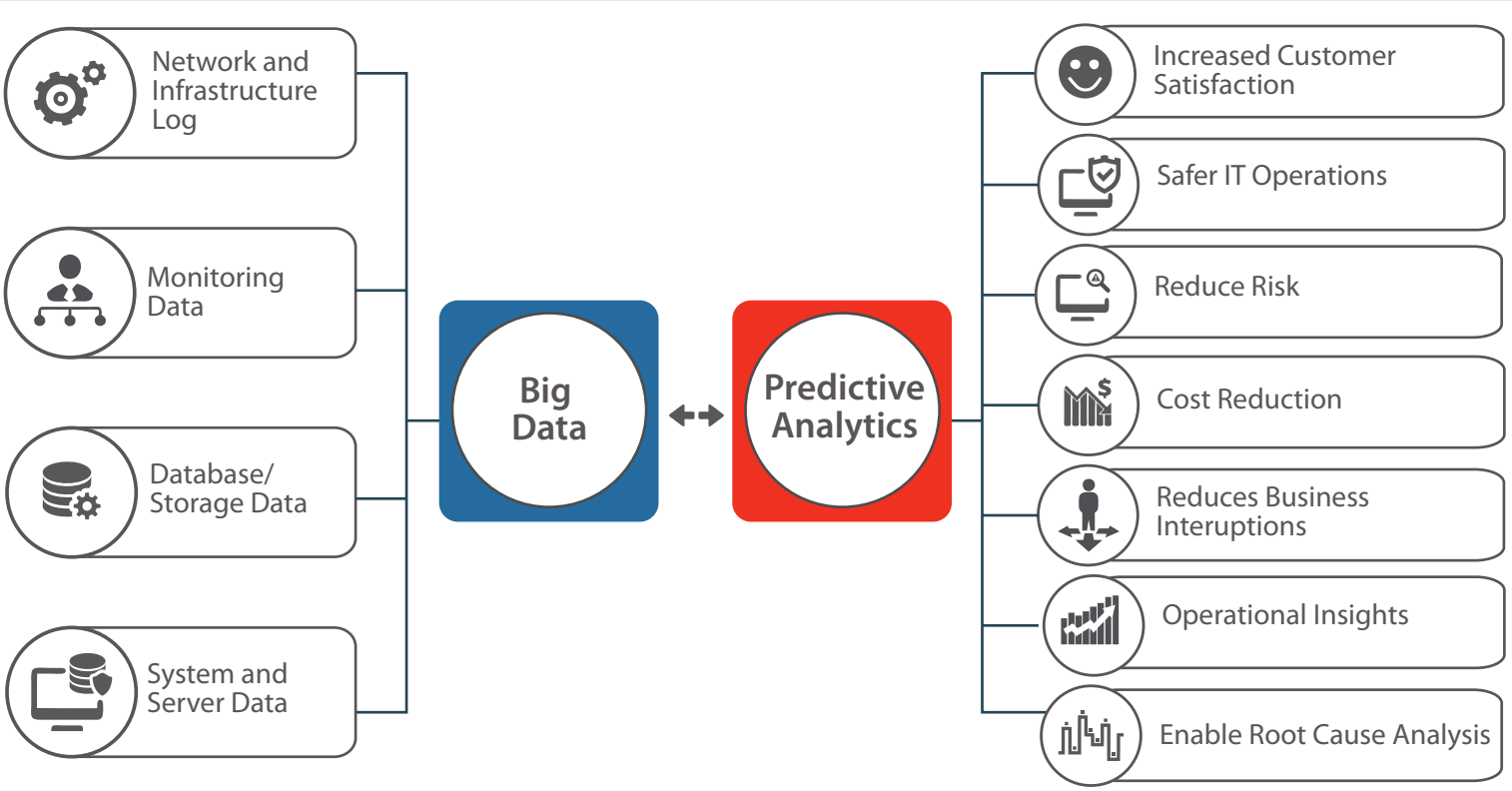

Figure 1: Benefits of Using Predictive Analytics and Big Data

Using Predictive Analytics for Greater Business Advantage

Predictive analytics helps organizations improve IT operational efficiency . With predictive analytics, enterprises can not only identify potential growth opportunities but also mitigate risks in operations. It significantly reduces operational cost while improving system effectiveness.

Predicting a problem with big data enables the service desk setup to take a 360-degree view on the responses. While, predictive analytics enables a firm to understand how well they can manage their IT services and ensure zero impact on the end-user.

It is the most effective way to get worthy information from past and present data and in the coming future will be used extensively by organizations to derive higher business value.

Predictive analytics analyzes the risk, optimizes IT decisions, assures quality and detects any error or breach. Thus, providing measurable outcome makes predictive analytics the best choice for IT operations.

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