How Predictive Analytics & A Strong Network Create Delightful Customer Experiences

In today's digital business environment, organizations thrive or perish based on their customer experience. Customers, who increasingly are pressed for time, expect highly personalized interactions. At the same time, organizations need to understand how factors ranging from supply chain challenges to network latency issues will impact their business—and, therefore, their customer experience. Predictive analytics are thus an essential building block of technology-enabled business and digital transformations.

Predictive analytics are emerging as a tool for organizations to be proactive, not reactive, in serving their customers and understanding the needs of the market in general. Using historical data to predict future outcomes and behaviors, predictive analytics provide much-needed insights to enable organizations to make better-informed decisions, for the business and its customers.

The predictive analytics space is large and growing, as more data-intensive technologies crowd the business landscape. Globally, the predictive analytics market is expected to reach $28.71 billion by 2026, from $5.72 billion in 2017,[1] as companies look to the technology to drive increased interaction and better personalization.

The power of predictive analytics depends on not only the amount of and type of data being analyzed, but also the strength of the underlying network that transports it. Traditional IT infrastructures were not designed for the workloads of today's data-intensive technologies. As such, newer technologies designed to complement existing networks, such as software-defined networking and edge networking, provide much-needed flexible capacity and are rapidly being adopted by IT decision-makers. As predictive analytics become more ubiquitous in helping create delightful customer experiences, these and other networking technologies will come further into play.

Benefits of Predictive Analytics: More Insight, Less Guesswork

Organizations in all industries are using predictive analytics to help improve operations and increase efficiencies, which can have a major impact on how—and how well—they interact with their customers. From the data center to the customer front lines, the use of predictive analytics is growing.

Consistent Digital Experiences through Network Predictive Analytics

In IT operations, predictive analytics is being used to ensure systems are running at peak efficiency and to mitigate any issues with the network before they impact customer experience.

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For example, IT teams can use predictive analytics to understand the root causes of network latency so they can recognize conditions that contribute to latency, such as a cluster of servers going offline frequently, bad code that slows network performance, or high customer demand. Armed with that information, teams can better spot issues as they arise and fine-tune their networks, so customer experience is not affected.

Also in IT operations, predictive analytics can be used to predict when applications or network devices are in danger of crashing or going offline. By studying past performance, IT operations teams can understand what "normal" looks like and recognize any anomalous behavior indicating potential disruption, which would have a negative impact on customer experience. Teams then could work proactively to mitigate the disruption before it occurs.

**Ensuring Data Security Applications
with Predictive Analytics**
Ensuring customers feel secure in their interactions or transactions with the organization is also an opportunity for an exceptional customer experience that can be bolstered by predictive analytics. Security is paramount in today's data-intensive business landscape, and an organization's ability to keep its own and its customers' data safe—especially the reams of data used in predictive analytics—is a primary driver for many customer decisions whether to remain loyal to an organization or move to its competitor. And as the global average cost of a data breach now reaches $3.9 million and a whopping $8.2 million in the U.S.,[2] it goes without saying that organizations must use every tool at their disposal to ensure their customers' private data remains private.

To that end, predictive analytics can be used to analyze and root out threats both external and internal. Analyzing behavior patterns of employees, for example, can help organizations spot and mitigate potential insider threats. By the same token, analyzing traffic patterns over the network—such as the opening of a particular server port during non-business hours every day—can indicate the presence of malware or other cyberattacks siphoning data from the network, providing companies with the right information to stop the attack.

Predicting Demand Patterns
Organizations can also use predictive analytics to understand issues along their supply chain that could have a negative impact on customer experience. For example, retailers can gain insight into buying patterns of customers to create

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"demand patterns," which predict when a customer will want or need a particular product or part. Using that information, they can adjust their inventory to prevent over- or understocking, or to switch to "just-in-time" inventory management. Both increase the chances that the product will be in stock when the customer comes looking for it.

**Predictive Analytics for Better Sales or
Marketing Offers**
Marketers could use the power of predictive analytics to understand when customers are more likely to open a newsletter or targeted email, improving their response rates and customer communications. Or, using historical and behavioral data, an organization could more precisely target marketing or sales campaigns to increase sales by offering merchandise the customer is more likely to want or need.

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Predictive analytics also could be used to boost in-store sales while simultaneously improving the customer's experience. For example, a customer who has purchased running shoes, running shorts and workout gear has a higher likelihood of purchasing a wearable run tracker or smartwatch. Using predictive analytics, organizations can pinpoint those customers and send real-time push campaigns when they enter the physical store. Sales associates could also be armed with personalized interests to tailor customer interactions.

Data and Networking: Bridging the Gap Between Objectives and Capabilities

Organizations understand the need to provide exceptional experiences that delight the customer, yet many recognize their networks are not capable of supporting today's data-centric applications and services, including predictive analytics.

Data is at the heart of predictive analytics. As such, they require a steady ingestion of data from multiple sources to be effective. The more of it, the better.

Just about every device today generates every type of data, from performance metrics in data center servers to the average length of time an employee uses a CRM application. Outside the network, social media, streaming videos, content downloads and connected devices all generate data that can be invaluable in creating and supporting delightful customer experiences.

Collecting and storing all the data necessary for effective predictive analytics is essential, yet most organizations are ill-prepared to handle the data deluge. In fact, in a recent survey, of the 83% of organizations that had adopted big data and analytics, only 36% believe their network is capable of supporting their needs.[3]

To fully realize the power of predictive analytics and other data-centric technologies, many organizations are adding or upgrading their networking infrastructure in ways that don't require "ripping and replacing" their current technologies and enable them to derive continued value. Adding software-defined networking technologies to complement their existing MPLS network, for example, can add needed capacity to run data-heavy workloads without stressing the network and increase the speed of data ingest from and response to all points on the network.

Likewise, edge networking is coming into its own among organizations dealing with data-intensive workloads. Pushing network intelligence to the edge will enable data to be processed at the edge of the network—on edge devices such as routers or switches—rather than at the data center, reducing bandwidth needs and accelerating response. Edge networking has been a mainstay technology for the cloud, and now organizations are looking to the technology to manage data from IoT devices, such as the customer information gleaned from Siri, Alexa and other smart assistants, and leverage it for predictive analytics. Cloud and on-premises data centers and ultimately the customer experience can benefit from reduced latency and increased processing power afforded by edge networking.

Organizations that don't have the ability to upgrade their networks, due to cost, capacity or other reasons, can turn to managed services providers to "fill in the gaps" in their current infrastructure. Managed services can benefit network, security and IT operations and business analytics, enabling organizations of all sizes and business models to take advantage of the latest in digital transformation technologies—including predictive analytics—without spending all their time and efforts on managing their networks.

Conclusion

Successful organizations know the importance of customer experience as a business value driver. Those that can delight the customer through exceptional experiences will be those that enjoy a strong and loyal customer following.

Predictive analytics is quickly becoming a foundational technology many organizations rely on for much-needed insights, to enable them to make better-informed decisions for the business and its customers.

The network on which predictive analytics platforms run are critical, as the data necessary for effective predictive analytics can easily overload networks built with and using yesterday's technology. Providing the right infrastructure to support data-heavy workloads is paramount to deriving value from predictive analytics, and thus creating delightful customer experiences.

An organization that wants to dynamically predict, respond to and influence its customers' behavior requires dynamic, software-defined, network infrastructure capable of responding and adjusting in real-time.

1 "Prescriptive and Predictive Analytics - Global Market Outlook (2017-2026)," research report, Research and Markets, April 2019 https://www.researchandmarkets.com/reports/4774595/prescriptive-and-predictive-analytics-global

2 Larry Ponemon, "What's New in the 2019 Cost of a Data Breach Report," blog post, Security Intelligence, July 2019 https://securityintelligence.com/posts/whats-new-in-the-2019-cost-of-a-data-breach-report/

3 "Network Readiness Survey: Is Your Business Ready for a Connected Future?" Accenture, September 2019 https://newsroom.accenture.com/content/1101/files/NetworkReadiness.pdf