

REPORT: BEST PRACTICES

The Business Imperative of Optimizing Digital Customer Experience

**Determining the Maturity of Initiatives for Performance
Management of Digital Customer Experience**



Dr. Natalie L. Petouhoff
Vice President and Principal Analyst

Content Editor: R "Ray" Wang

Copy Editor: Maria Shao

Layout Editor: Aubrey Coggins

TABLE OF CONTENTS

EXECUTIVE SUMMARY 3

**WHY MEDIOCRE DIGITAL PERFORMANCE MANAGEMENT DELIVERS POOR
CUSTOMER EXPERIENCES 4**

**THE CASE FOR ELEVATING PERFORMANCE MANAGEMENT OF DIGITAL
CUSTOMER EXPERIENCE 7**

**THE MISSING LINK - CONNECTING DIGITAL EXPERIENCES WITH
BUSINESS OUTCOMES 9**

THE FIVE LEVELS OF DIGITAL PERFORMANCE MANAGEMENT 10

**THE PERFORMANCE MATURITY MATRIX FOR DIGITAL
CUSTOMER EXPERIENCE 11**

**RECOMMENDATIONS: SETTING THE BENCHMARKS AND BEST
PRACTICES FOR DIGITAL CUSTOMER EXPERIENCE 17**

APPENDIX 20

ENDNOTES 23

ANALYST BIO 24

ABOUT CONSTELLATION RESEARCH 25



EXECUTIVE SUMMARY

Customer experience is a top priority as businesses seek growth in a highly competitive market. Driven by the Consumerization of IT (CoIT), a new generation of heightened customer expectations is requiring brands to revisit their business models. Many digital business or chief customer experience (CX) executives realize they need to deliver quality experiences but are not familiar with the technology infrastructure and software monitoring and measurement process used by IT to create great customer experiences. CX executives tend to focus on making the website or mobile application work, not necessarily on introducing performance metrics at the software and the technology infrastructure levels that affect customer experience. However, there are organizations that use both business and technical metrics to monitor and measure the digital customer experience to improve customer retention, client loyalty, customer lifetime values, revenue, profits and margins.

To determine how mature a brand's management of the digital customer experience is, companies need a combination of business and IT metrics and a framework to improve their digital business. These tools provide CX executives and IT operations professionals with the ability to assess where their brand is within a range of capabilities for customer experience performance management. The tools also help provide the ability to visualize the path toward optimizing IT and business performance.

This report looks at the evolution of performance management of customer experience and how organizations can develop and establish practices and processes to engage, retain and increase their customers by optimizing the customer experience.

Business Themes



Consumerization of IT



Data to Decisions



Next-Gen Customer



Technology Optimization

WHY MEDIOCRE DIGITAL PERFORMANCE MANAGEMENT DELIVERS POOR CUSTOMER EXPERIENCES

Market-leading brands have invested millions into their customer experience (CX) initiatives. CX teams have applied design thinking, carefully defined personas, and strategically crafted customer journeys. While measuring the success of these initiatives often focuses on customer satisfaction across phases of the customer journey, analyzing the digital

experience—the quality and effectiveness of the digital assets delivered to the customer—falls to the bottom of the priority list.

Companies may not know how to evolve digital performance based on industry best practices. Often, companies have not evolved their customers' digital experience because of five factors (see Figure 1):

1. **Some executives do not believe it is worth investing resources on digital performance management.** While IT and engineering focus on the software and technological aspects of optimizing digital performance

Figure 1. Digital Performance Management Is Not Necessarily a Top Priority Yet



Source: Constellation Research

management, IT may not translate how it affects the customer experience to CX executives who have traditionally measured digital experience with different metrics. However, by correlating the IT performance metrics of mobile and web applications with business metrics, businesses can increase their operating efficiency and ROI of customer relationships. For instance, if a company wants to deliver services across desktop, tablet and smartphone screens, it would want to measure response times on a mobile network to the target Web server. Another IT metric might be something like page loading time. A business metric might be the number of leads converted to sales or the ease of use of the user interface. In digital performance management, IT and business metrics add performance context to business decisions. Without this context, it is nearly impossible for brands to have the complete awareness required to understand how their customers are experiencing their offerings or services.

Further, most brands lack the necessary C-level support and budget to invest

resources in a performance assessment or benchmarking project to improve customer experience. Another common barrier is the misalignment of objectives between IT teams and digital teams in the line of business. While IT is concerned with the performance of web and mobile channels, digital teams focus on business goals like lead generation, leaving the impact of performance as an afterthought. Creating alignment between IT teams and CX teams is fundamental to managing the digital experience, and it starts with the right performance metrics.

- 2. Science backs the finding that digital experience is not a myth, but a matter of doing good business.** Noted psychology researcher and writer Mihaly Csíkszentmihályi observed in 1998 that people who perform seamless, sequence-based activities regularly are happier than people who do not.¹ He coined the term “flow” to describe this behavior. However, instead of offering smoothly sequential flows, websites and mobile applications often experience lag, downtime, and

restarts. At the same time, customers' flow-oriented brains simply are not wired to deal with poor digital interactions. As a result, when the customer experience is poor, they leave the site and go to a competitor's that has optimized both their IT and CX metrics so the experience does flow well. Science has shown the business need for great customer experiences is a fact, not a myth.

- 3. Customers' perceptions do not necessarily align with actual website and mobile performance.** Customers expect a seamless online experience that simply works. They want web and mobile sites to be easy to use, safe and fast. With the consumerization of IT (CoIT), customers expect their mobile and online experiences to work quickly and easily - like Twitter - regardless of how complex the application is. Customers expect the brands they do business with to have software that operates with ease and simplicity. The impact of web and mobile site quality on customer satisfaction is something that companies have to face.

It can be tempting to label customers picky and impatient, but there's a wealth of research on what happens to customers on a neurological level when they are forced to deal with slow or interrupted processes.² Impatience is an indelible part of human circuitry. Brands must recognize that the hardwiring of customers' brains and their neurological desire for flow and ease of use are part of their expectations. Companies must come to terms with the economic imperative of the customer experience or risk losing customers to the competition.

- 4. Customer perception does not necessarily align with reality.** A customer's perception of time varies according to many factors, including age, location, emotions, and assorted external stimuli. The average website user perceives load times as being 15 percent slower than they actually are. When recalling the experience later, they often remember load times as being 35 percent slower.³ In fact, the average person believes she spends nine minutes a day waiting for slow websites. This would actually translate into more than

two full days every year. Brands can try to combat these issues by adding indicators like spinners and progress bars to “trick” customers into believing pages are up to 10 percent faster than they actually are, but customers are smart and their neurological expectations are still very high.

5. **Poor digital performance management leads to poor business outcomes.** Fast

websites create satisfied users who are more likely to follow “calls to action” to register, download, subscribe, request information, or purchase. On the other end, unsatisfied users, which could include those who experience a mere two-second slowdown in web page load time, make almost two percent fewer queries, nearly four percent fewer clicks, and report being significantly less satisfied with their overall experience.⁴ Worse, they tell friends about their negative experience. With the word-of-mouth that social media networks provide, brands need to heed the seriousness of positively differentiating the brand’s customer experience.

THE CASE FOR ELEVATING PERFORMANCE MANAGEMENT OF DIGITAL CUSTOMER EXPERIENCE

To be able to meet the expectations of today’s customers, businesses must make digital experience part of their key business initiatives. To do so, brands can (see Figure 2):

- **Show the value of spending time, money and resources on digital performance management.** By using the maturity matrix and benchmarking, businesses can understand where they are and how they can advance the management of their applications’ performance. By providing benchmarks and A/B testing, metrics can be improved, thereby changing conversations that once were, “We’re not interested” to “How fast can we optimize everything?” Instead of IT begging the digital customer officer or chief customer experience executive to optimize the digital experience, CX professionals can truly understand how to create superior customer experiences from the application management point of

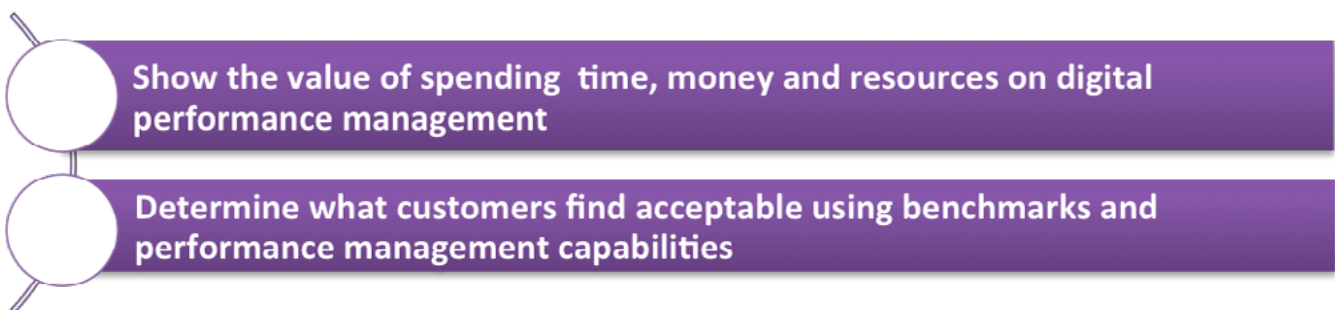
view, make them a business priority and partner with IT.

- **Determine what customers find acceptable using benchmarks and performance management capabilities.** Based on neuroscience, the facts about human perception and response times have been consistent for more than 45 years.⁵ They are hard-wired into the brain and are consistent regardless of the type of device, application, or connection a customer is using. That's key to understanding where customer expectations come from. It is critical to determine how a brand's web and mobile sites compare to customer expectations as well as to benchmark against CoIT applications, competitors or even

non-competitors who have a great customer experience.

In Robert B. Miller's 1968 paper, "Response Time in Man-Computer Conversational Transactions,"⁶ he found that people have always been most comfortable, efficient and productive with response times of less than two seconds. Since 2006, what has changed slightly is that the average online shopper expects pages to load in four seconds or less. Today, 49 percent expect page load times of two seconds or less and 18 percent expect pages to load instantly.⁷ While optimizing every aspect of a brand's digital assets to meet an "instant" expectation is a laudable goal, organizations simply may not have budgeted the resources to achieve this

Figure 2. How Digital Performance Management Can Supercharge Customer Experience



Source: Constellation Research

goal. Digital experience maturity, however, provides teams the ability to identify the interaction points in the digital customer journey most sensitive to improvement. As a result, they can maximize return on performance investment and include this in the budget and resource planning.

THE MISSING LINK - CONNECTING DIGITAL EXPERIENCES WITH BUSINESS OUTCOMES

What does it take to be great at digital performance management? Digital performance management is not just monitoring, it is about customer behavior analysis, the customer's digital experience, the software application and the infrastructure layers that support it all. Monitoring starts at the software infrastructure level with best-in-class performance management measurement and expands up the technology stack to applications as well as includes the digital customer experience. The foundations of optimized digital performance management are:

1. Having business and technology ownership/sponsorship:

- The business believes digital customer performance is worth investing in
- Technology teams have dedicated resources to conduct performance management projects and are working side-by-side with the business

2. Using easily understood and customer-centric metrics and data:

- There is wide agreement within the organization that the staff knows the right metrics
- Metrics reflect the customer experience as well as server, technology infrastructure and software performance
- Consistent metrics are used for all sites, web and mobile

3. Ensuring performance metrics translate into insights and actionable data:

- Experts focused on performance management are able to summarize data

for business and technology staff so improvements are easily understandable and can be made to the software and the resulting customer experience

4. Operating with a repeatable and standardized process/review:

The organization has an ongoing cadence to review and discuss digital performance measurement and management

5. Creating a development process which supports performance optimization:

- Technology development is fully funded to address performance management throughout the application lifecycle
- Development standards are agreed upon and followed by both IT and the business.

THE FIVE LEVELS OF DIGITAL PERFORMANCE MANAGEMENT

There are five phases of growth in the performance journey. Each phase provides actionable guidance to ascend to the next level of maturity. All five levels of the digital performance maturity model have defining capabilities (see Figure 3):

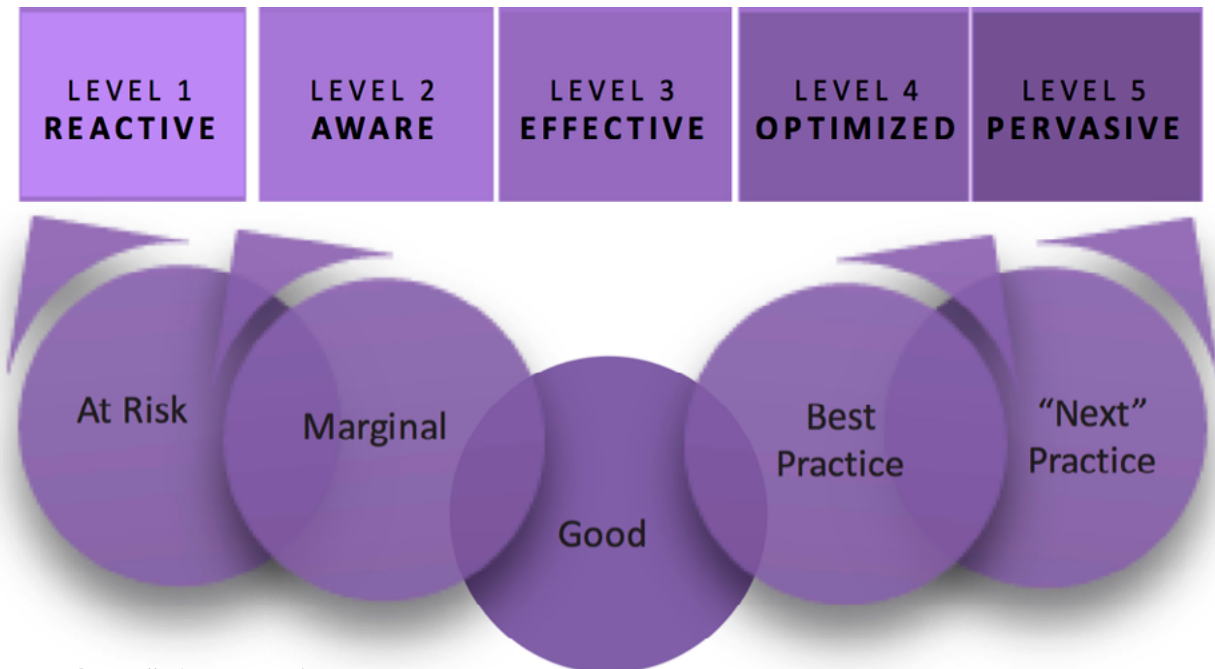
- **Level 1 - Reactive:** This is the lowest level of maturity a business can be at and signifies an “at risk” level of digital performance management.
- **Level 2 - Aware:** This phase indicates a growing understanding of how technology shortcomings affect the customer and signifies a “marginal” level of digital performance management maturity.
- **Level 3 - Effective:** Things are progressing so that this phase has a “good” level of digital performance management maturity.

- **Level 4 - Optimized:** This stage indicates a brand is using “best practice” levels of digital performance management maturity.
- **Level 5 - Pervasive:** Digital performance management has become part of the DNA of the business and of IT and the company has reached a “next practice” level of maturity.

THE PERFORMANCE MATURITY MATRIX FOR DIGITAL CUSTOMER EXPERIENCE

The maturity matrix for digital performance provides brands with a way to assess how their business is faring with best practices. Each level of the matrix has risk factors as the digital experience is optimized for customers. The matrix also associates performance metrics with business requirements that are necessary to succeed in creating superior customer

Figure 3. How Digital Performance Management Can Supercharge Customer Experience



Source: Constellation Research

experiences. Figure 4 provides an overview of the digital performance maturity matrix. Figure 5 provides the details at each level of the matrix.

Level 1 - Reactive

The business is in a reactive state when it comes to handling the digital customer experience. As a result, the risk factor for the business is very high. There are minimal internal system performance levels established. Technical metrics that would affect the customer experience do not connect to each other. The brand frequently misses

real problems that manifest in channels like customer support and social media. The brand relies on operational resources to address issues and this requires a high investment in human resources to maintain operations. The customer experience expectations from the business' and the customer's points of view and business standards for this level are shown in the Appendix (see Figures A and B).

The prevention of problems at this level is minimal or ad hoc at best. Key performance indicators (KPIs) come from only high-level performance monitoring efforts used to support the operational management of

Figure 4. The Five Aspects of the Customer Experience Performance Maturity Matrix

Digital Business Performance Measurement: The ability to measure technology behavior and performance, together with user behavior and business performance.

Digital Business Problem Resolution: Identification of both potential and actual user struggles, correlation to business impact, problem isolation, root cause determination, and specificity to drive fixes.

Digital Business Performance Improvement: Performance intelligence that identifies opportunities to improve end user experience and digital business outcomes.

Digital Business Problem Prevention and Readiness: Continuous performance measurement through the digital asset lifecycle, realistic simulation of usage, and digital asset governance based on performance.

Digital Business Performance Reporting and Collaboration: Analytics supporting business IT and business decision-making, development-friendly insight exchange, common metrics and language.

Source: Constellation Research

software applications. The indicators do not connect well to the customer experience. There are disparate sets of metrics for managing quality, risk and compliance. There is limited connection between leading and lagging indicators for software application performance improvements. The business focuses only on measuring and improving poor quality and costs and does not focus on benchmarking the customer experience internally or externally (see Figure 5).

Improvements tend to be minimal, with the organizational efforts focused on the software application quality and service levels. The IT and lines of business teams tend not to trust each other and throw issues over the wall, blaming others. Insight and collaboration are minimal as the teams use siloed tools. They do not have the ability to measure the software application behavior and performance in combination with the customer behavior and customer experiences.

There are no business standards for customer experience. In addition, there is no single owner responsible for both the business and

technology outcomes. There is no sponsorship from executives for the business and IT to work together to drive better customer experiences. The business generally experiences:

- Volatile conversion rates
- High site abandonment rates
- Difficulty preserving loyalty and reducing churn
- Low problem resolution

The customer experience outcomes include:

- Website pages that load slowly
- Mobile applications that don't load on the mobile phone
- The customer is unsure when an order is placed and if the order been completed.

Level 2 - Awareness

The risk factor for the business is still high at this level. There is no correlation about how the customer experience affects the business. There are many challenges with identifying potential and actual customer struggles. The brand is not able to isolate problems or

determine the root causes of the customer experience or system issues. The monitoring of the software and technology infrastructure is marginal. The focus is on operational control of applications and technology infrastructure, with limited focus on customer experience (see Figure 5).

Prevention of problems is limited, with only occasional use of digital customer experience baselines and customer simulations during the development of applications. Digital customer experience analysis is limited to a few use cases and the analysis is rarely shared beyond the IT department. Standards are driven exclusively by the technology organization and defined by

Figure 5. Key Characteristics at Each Level of Customer Experience Performance Maturity

Maturity Level	Digital Experience Management Characteristics
Level 1: Reactive	<ul style="list-style-type: none"> • Only low-level performance monitoring efforts used to support operational infrastructure management • Desire to measure digital experience, but no definition of CX metrics • Not focused on benchmarking performance internally or externally • Siloed disparate measurement, interaction and exchange of data/process between functions within IT and across to digital business teams
Level 2: Awareness	<ul style="list-style-type: none"> • A growing understanding of the events that affect the customer experience, but focus is still on operational quality to drive digital asset availability • Still reactive for the most part • Siloed use of performance tools/information
Level 3: Effective	<ul style="list-style-type: none"> • Operational quality is still the focus but beginning to share/use the data for performance. • Moving to customer and transactional focus with closer representation of actual digital experience • Belief that digital experience analysis could be used to affect business outcomes • Good use of software application management tools/information among teams • Becoming proactive
Level 4: Optimized	<ul style="list-style-type: none"> • Performance is the focal point, given operational quality has already been established • Organizational commitment to the impact performance has on customer experience • Beginning to be more proactive in building out design guidelines, standards and governance • Effective in managing the digital experience
Level 5: Pervasive	<ul style="list-style-type: none"> • Performance is a business metric and contributes to optimizing digital business outcomes • Fully integrated measurements of key business processes and digital delivery • Everything driven from customer perspective • Alignment with user behavior (web & mobile) analytics • Highest level of business participation/sponsorship • Proactive management of digital experience

Source: Constellation Research

technical metrics and data rather than business outcomes and customer experience metrics. Company and customer expectations as well as business standards for this level can be seen in the Appendix (see Figures A and B).

Level 3 - Effective

At this level the business is moving toward proactive, continuous performance measurement of customer experience by simulating customers' usage of the website, mobile sites and applications. The KPIs are progressing toward a strong IT understanding of customer experience. Both the business and IT are moving toward a good use of performance analytics tools. However, performance measurement still is defined primarily by technical traits and some aspects of customer experience, but mobile customer experience monitoring and measurement are still missing.

There are fewer technology issues that affect customer experience, but when they do happen, both the IT and business teams work together to make the changes. The IT

team uses best practices. Performance data is sometimes used to help establish baselines that are used to improve digital assets. The company uses insights from how digital assets perform (for example, how long does it take to render a photograph on a website page or mobile application) to create baselines and trends and then map the trends to business forecasts. The company and customer expectations as well as business standards for this level can be seen in the Appendix (see Figures A and B).

Level 4 - Optimized

Companies at this level proactively identify opportunities to improve customer experience and digital business outcomes. The KPIs are at the “best practice” level for managing software applications that affect the customer experience. Information about how the software and infrastructure contribute to the customer experience is shared with both the business and IT teams. The business measures the technical performance of customer experiences in the context of business transactions. These

include customer experiences based on real customer interaction response times across all geographies and all digital channels and devices.

In resolving problems, the company focuses on making sure there is a direct correlation between IT metrics and customer experience metrics and has processes in place to provide actionable detail across teams. Prevention of problems occurs by evaluating the customer experience, gathering and correlating information, and then sharing it between the technology and digital business teams. Insights are key at this level and include understanding the brand's performance relative to peers and competitors. The company and customer expectations as well as business standards for this level can be seen in the Appendix (see Figures A and B).

Level 5 - Pervasive

The customer's perspective drives everything. The business is fully committed to optimizing the digital customer experience. This means that KPIs are monitored at the executive

level, performance is a feature across the entire digital asset lifecycle, and performance investments are evaluated by how they affect the business. Customer experience is measured at the transactional level of performance across all tiers of the application technology delivery chain.

Issues with customer experience can be resolved by correlating technology infrastructure metrics and drilling down to understand the context of the issue and how it affects the customer experience. Problems are escalated to the IT development team and include actionable diagnostic details. Problems are prevented through the creation of a Performance Center of Excellence to drive continuous management of the software application that controls customer experience. This ensures the investment remains relevant as the application architectures evolve and the IT team's capabilities mature. Improvements are made by testing and optimizing performance for all devices and channels. Insights and performance reports are shared by IT across all functional departments. The company and customer expectations as well as

business standards for this level can be seen in the Appendix (see Figures A and B), including some details from a real customer case study.⁸

RECOMMENDATIONS: SETTING THE BENCHMARKS AND BEST PRACTICES FOR DIGITAL CUSTOMER EXPERIENCE

Companies that want to elevate their customers' digital experience need to develop ways to look at and measure the performance of their customer experience technologies. Here are steps a business should take (see Figure 6):

1. Do a gap analysis of the digital customer experience. Using peer and CoIT benchmarking, compare the brand's web and mobile performance management with competitors and with the brand's goals. Inventory the technology monitoring and digital analytics toolkit to determine if the brand is doing end-user, customer experience testing to detect bugs and performance issues in web sites and mobile

apps. Make sure to measure the customer's digital experience and integrate digital (web and mobile) analytics for measurement of customer behavior and customer journey analysis. Collect the data to graph and document customers' digital experiences. The analysis will show:

- Gaps in adoption of application performance management
- Aspiration/strategy differences between different teams and sometimes even on the same team
- Process deficiencies where the environment may be well instrumented but is not used in day-to-day activities. For example, the incident management team does not have access to digital experience data and dashboards
- Organizational blockers including leadership priorities, funding, resources, etc.
- Skills deficiencies due to team turnover/migration that can be quickly remedied with training
- Gaps in availability of tools for application performance management.

2. Improve the lowest hanging fruit. A

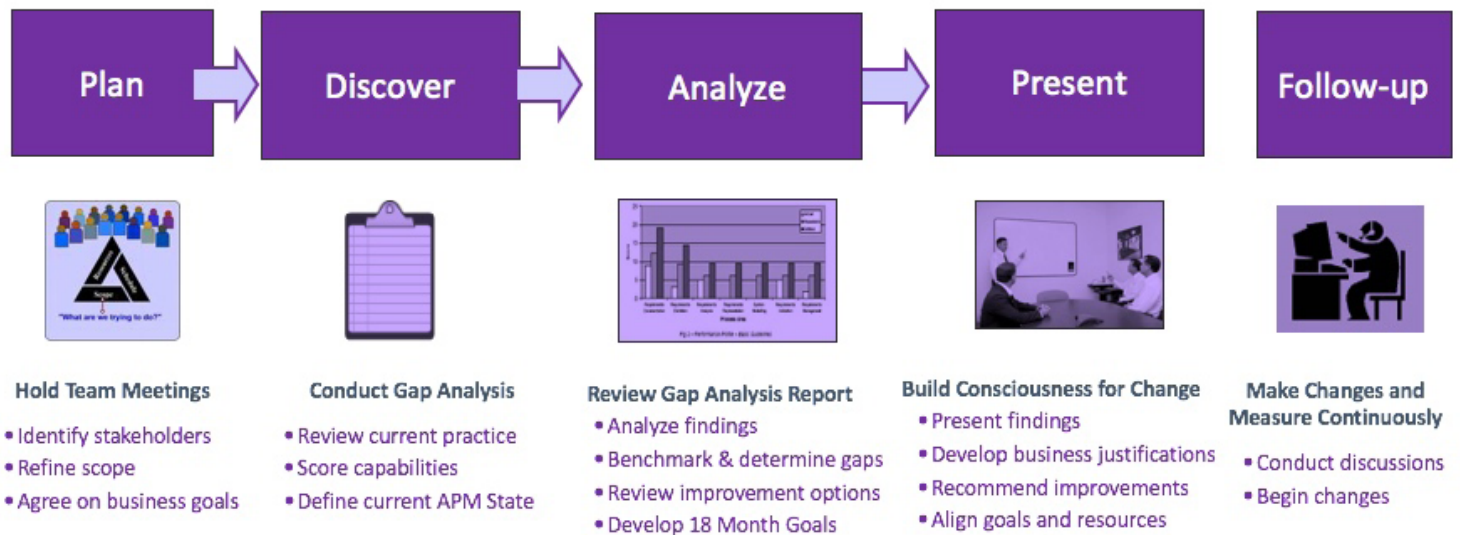
business can't change everything at once.

However, knowing what's not working is the first step to making changes. Start by making the easiest changes and then continue until the digital experience measurement program matures to reach the business goals set. The key indicators for digital performance management can range quite a bit, from the Level 1-Reactive stage to the Level 5-Pervasive stage. For instance:

Level 1 - Reactive:

- Limited connection between leading and lagging indicators for customer experience improvements
- Financial, operational, risk, quality and compliance are all measured and monitored separately
- Only high-level performance management efforts are used to support corporate operational excellence initiatives

Figure 6. Conduct a Step-by-Step Assessment of Digital Performance Management



Source: Constellation Research

- Focus on only measuring and improving quality and costs
- No focus on benchmarking internally or externally.

Level 5 - Pervasive:

- A standard set of KPIs established globally, including quality, risk and compliance
- An understanding of leading and lagging indicators about process health and customer experience performance across the value chain
- A clear understanding of connections between financial, operational, quality, risk and compliance metrics
- Operational excellence and continuous improvement best practices are used for driving great customer experiences
- Industry benchmarks are used to set goals for customer experience.

3. Connect improvement in the lowest hanging fruit to business outcomes. The average customer acquisition cost for e-commerce retail sites can be anywhere between \$75 and \$120. Repeat customers

are the brand's bread and butter. Return visitors spend twice as much time on the brand's site than first-time visitors. They also view more pages and they are nine times more likely to make a purchase. Use these types of real-world business outcomes to justify increasing the brand's digital performance management.

4. Make continuous measureable improvements. The world of customer experience is changing rapidly. New apps, devices, and channels emerge while customer expectations keep rising. Business must continuously monitor, evaluate, measure and improve digital experience to keep CX initiatives competitive. Go beyond improving the brand's ability to respond when digital experience degrades to proactively identifying and improving points of friction or struggle along the customer journey. As new initiatives and markets open up, pre-empt poor digital experience with proactive testing.

APPENDIX

Figure A. Details of the Five Levels of the Performance Maturity Matrix for Customer Experience

Level	Performance Measurement	Problem Resolution	Improvement
1	<ul style="list-style-type: none"> Focus is on internal system performance level Technical metrics disconnected from customer experience metrics 	<ul style="list-style-type: none"> High levels of trouble "noise" Frequently miss real problems in business channels like customer support and social media Intense reliance on operations resources to address issues High investment in human resources to maintain operations 	<ul style="list-style-type: none"> No analysis of customer experience performance Optimization efforts focus on functional quality and technical system service levels
2	<ul style="list-style-type: none"> System level monitoring augmented by up/down measurement from customer's perspective via active (synthetic) tests. Focuses on single URLs/endpoints Orientation on applications (less) and infrastructure (more) components within direct operational control 	<ul style="list-style-type: none"> Automated notification of performance and availability violations based on static thresholds Time series correlation of system health with customer impact signals Significant human resources and "war room" scenarios to determine problems and orchestrate resolution 	<ul style="list-style-type: none"> Very limited dedication of resources to performance trending and profiling Analysis typically oriented around very pointed use cases and narrow applicability beyond IT
3	<ul style="list-style-type: none"> Strong operational understanding of customer experience and application performance. Some aspects of customer experience, (mobile) still missing Metrics defined by technical characteristics and application profile (latency, bytes, calls, etc...) Simulation and measurement of key digital customer journeys Scope of awareness and accountability inclusive of some digital services outside of direct control 	<ul style="list-style-type: none"> Automated notification of performance and availability violations based on customer perspective Integration with incident management systems Automated fault domain isolation across the entire application delivery chain Disruptive events fewer, but still require broad team response 	<ul style="list-style-type: none"> Performance analysis tasked as additional responsibility, but no official budget/goal Some performance data feeding baselines for feature requirements
4	<ul style="list-style-type: none"> Cross-channel understanding of customer experience and application performance Metrics refined to include perceived customer experience (render, interaction, etc...) & industry comparisons Wide transactional visibility Scope of awareness and accountability inclusive of all digital services outside of direct control Some correlation of business metrics (conversion, abandonment, engagement) with performance 	<ul style="list-style-type: none"> Causal relationship determination between customer impact signals and application component bottlenecks based on automatically-discovered logical and physical relationships Focus is prioritization-based business impact In-context forensic analysis capabilities with drill-down and developer/dba-friendly detail to enable change without problem reproduction No "war room" scenario 	<ul style="list-style-type: none"> Resources dedicated to performance analysis and optimization Created a Performance Center of Excellence) Data shared widely between performance team and digital business team. Data used to create internal and external targets and develop standards for design and development Conducts regular industry benchmarking
5	<ul style="list-style-type: none"> Cross-channel understanding of customer experience and application performance Proactive measurements, customer performance and digital analytics all integrated together Entire experience value chain and user journey instrumented and understood User behavior, business metrics and performance combined in context to define customer performance value and return on investment 	<ul style="list-style-type: none"> Hyper-scalability and discoverability to support ephemeral components Automated anomaly detection and root cause recommendation based on machine learning Automated digital asset remediation and deployment triggered by problem determination 	<ul style="list-style-type: none"> Business analysis and technology analysis shared by common resources Performance data is the standard for digital asset design and optimization: no project launches without it. Analytics and performance data interconnected to understand key points of optimization and opportunity Adaptation as application architectures evolve and IT capabilities mature

Level	Prevention/Readiness	Reporting & Collaboration
1	<ul style="list-style-type: none"> Service delivery is contained to production only No use of performance baselines within application development lifecycle of customer experience Development testing limited to functional quality 	<ul style="list-style-type: none"> Insight limited to technical systems health only Reporting and data inconsistent Unclear organizational ownership of data and distribution. Provisional treatment. Silo'd tool dependence Teams tend not to trust each other: "Throw over the wall" mentality prevalent improvements
2	<ul style="list-style-type: none"> Service delivery is primarily contained to production Ad hoc, if any use of performance baselines and load testing within application development lifecycle to enhance functional quality testing Any load testing done typically unrepresentative of customer experience 	<ul style="list-style-type: none"> Insight limited to digital asset availability Data ownership limited to IT operations team Limited data sharing between functional departments No organizational alignment between IT and digital teams Development stymied by high friction involved with fixing issues identified by operations
3	<ul style="list-style-type: none"> DevOps practices taking root cause analysis Performance data feeds baselines used to inform release quality Regular load testing based on customer simulation against well instrumented test environment 	<ul style="list-style-type: none"> Performance insight provided, but without context Metrics typically very unique, technical and potentially misleading Data sharing beginning but difficult to extract value due to the uniqueness of each teams' tools and metrics Development stymied by high friction involved with fixing issues identified by operations
4	<ul style="list-style-type: none"> Consistent use of performance baselines within application development lifecycle Integration with build automation to gate releases 	<ul style="list-style-type: none"> Insight forming around digital experience and relationship to digital asset business effectiveness Metric rationalization enables cross-organizational alignment Role based visualizations and reporting enables executive-level buy-in and support Development accelerated by contextual data exchange
5	<ul style="list-style-type: none"> Continuous performance integration across entire pipeline from development to production Automation to gate deployments, evaluate trends, set goals and anticipate changes in applications, cloud capacity requirements and support market initiatives 	<ul style="list-style-type: none"> Clear understanding of direct impact of digital experience on overall customer experience Performance data in context of industry, best practices and customer behavior Business and technology extremely aligned, driven by business ownership All disciplines within IT exchanging data in context, frictionlessly with business

Source: Constellation Research

Figure B. Business Outcomes from the Business and Customer Points of View at Each Level of the Performance Maturity Matrix

Level	Customer Experience Outcomes From Business Point of View:	Customer Experience Outcomes From Customer's Point of View	Business Standards
1	<ul style="list-style-type: none"> • Volatile conversion rates • High overall site abandonment rates • Difficulty preserving loyalty or reducing churn • Problem resolution very low 	<ul style="list-style-type: none"> • Website home page and other pages take forever to load • Mobile site and/or app do not load on my smartphone/tablet • Search on the website is terrible; I can't find what I need and leave • I'd rather purchase from a competitor; I'm never sure if my order went through • I don't trust this brand 	<ul style="list-style-type: none"> • No business and technology ownership/sponsorship
2	<ul style="list-style-type: none"> • Poor conversion rates (case study reference: 18%) • High site abandonment rates • High churn • Low cost to serve savings (case study reference: \$0.72) 	<ul style="list-style-type: none"> • Website home page and other pages seem to take a long time to load • Mobile site and/or app sometimes loads on my smartphone/tablet • Search rarely provides me what I need to find • I don't trust my purchases are secure 	<ul style="list-style-type: none"> • Technology ownership/sponsorship only • Technology centric metrics and data
3	<ul style="list-style-type: none"> • Better conversion rates (case study reference: 25%) • Average site abandonment rates • Average churn • Standard cost to serve savings (case study reference: \$1.00) 	<ul style="list-style-type: none"> • Website home page loads quickly but other pages load slowly • Mobile site and/or app sometimes seems to get hung-up on my smartphone/tablet • Search sometimes finds the things I am looking for • I think my purchases go through, but I wish I would get a notification confirming it 	<ul style="list-style-type: none"> • Business beginning to explore ownership/sponsorship • Mis-aligned mix of technology and customer centric metrics and data • Part-time expertise to translate metrics into actionable data
4	<ul style="list-style-type: none"> • Good conversion rates (case study reference: 38%) • Low site abandonment rates • Low churn • High cost to serve savings (case study reference: \$1.50) 	<ul style="list-style-type: none"> • All website pages load quickly and interactions feel smooth • Mobile site and/or app always loads on my smartphone/tablet • Search works well and I can find things I am looking for • I trust my purchases are secure and like that I get a notification confirming them • I wish the brand could keep the context of the interaction when I switch devices or channels 	<ul style="list-style-type: none"> • Business and technology ownership/sponsorship • Easily understood and customer centric metrics and data • Dedicated performance expertise to translate metrics into actionable data • Development process which supports performance optimization
5	<ul style="list-style-type: none"> • Very high conversion rates • Very high page abandonment rates • High customer satisfaction, retention and willingness to promote brand 	<ul style="list-style-type: none"> • I can interact with the brand on any device – website, mobile, tablet, PC, MAC, any browser, call, text, chat, social, co-browse... • I can change devices or channels and the brand doesn't lose the context of my interaction – I don't have to repeat myself to agent-assisted help (phone, text, chat...) • I can go to the website, research the product and easily find all the information I can find what I need; the search is fantastic • I can look up an item on the brand's site and know if it's in the store local to me • I can pay for an item on the site and pick it up in the store local to me or have it sent to me • The process of purchasing from the brand is easy; the shopping cart does not get hung-up; I don't wonder when I hit the purchase button if the purchase went through • I get an email or other notification that my order is in process and order is shipped 	<ul style="list-style-type: none"> • Business and technology ownership/sponsorship • Easily understood and customer centric metrics and data • Performance expertise to translate metrics into actionable data • Development process which supports performance optimization • Repeatable and standardized process/review

Source: Constellation Research

ENDNOTES

-
- ¹ “The Concept of Flow: Handbook of Positive Psychology”, Jeanne Nakamura and Mihaly Csikszentmihalyi, Oxford University Press, 2002.
-
- ² “Dual-Task Interference in Simple Tasks: Data and Theory”, Harold Pashler, *Psychological Bulletin*, Volume 116(2), September 1994, pages 220-244, <http://dx.doi.org/10.1037/0033-2909.116.2.220>.
-
- ³ “Cheat Sheet: Everything You Wanted to Know about Web Performance But Were Afraid to Ask”, Joshua Bixby, *Web Performance Today*, June 15, 2010, <http://www.webperformancetoday.com/2010/06/15/everything-you-wanted-to-know-about-web-performance/>.
-
- ⁴ *Ibid.*
-
- ⁵ “How to Create the Illusion of Faster Web Pages (While Also Creating Actual Happier Users)”, Tammy Everts, *Web Performance Today*, July 16, 2014, <http://www.webperformancetoday.com/2014/07/16/eight-tricks-improve-perceived-web-performance/>.
-
- ⁶ “Response Time in Man-Computer Conversational Transactions”, Robert B. Miller, IBM, 1968, <https://www.computer.org/csdl/proceedings/afips/1968/5072/00/50720267.pdf>
-
- ⁷ “Great Expectations: 47% of Consumers Want a Web Page to Load in Two Seconds or Less”, Nilesch Patel, *Wired.com, Innovation Insights*, June 5, 2014, <http://insights.wired.com/profiles/blogs/47-of-consumers-expect-a-web-page-to-load-in-2-seconds-or-less#axzz498kHSokj>.
-
- ⁸ “Going Beyond Page Load Speed to Optimize Customer Experience: How T-Mobile Mastered Digital Performance to Boost ROI”, *Dynatrace*, May 20, 2016, https://info.dynatrace.com/apm_all_cs_tmobile_going_beyond_en_registration.html?_ga=1.177449893.1687154072.1457471915.

ANALYST BIO

Dr. Natalie L. Petouhoff

Vice President and Principal Analyst

Dr. Natalie Petouhoff is Vice President and Principal Analyst at Constellation Research. She is a keynote speaker and researcher in all customer-facing applications, including Social, Mobile, Digital, Listening and Monitoring, Marketing, Commerce, Customer Experience of IoT, Customer Care, Customer Service, and Contact Centers. Clients look for her guidance and perspective, which is always refreshing, paradigm-shifting and innovative.

Petouhoff was voted one of the top 100 Most Influential Women in the World, as one of the top 50 CRM and Customer Experience Professionals and in the Top 20 for Social and Digital Media Experts. She is often quoted in USA Today, Adage, BusinessWeek, Fast Company and The New York Times.

She previously was a management consultant and systems integrator at PwC, a Forrester analyst and chief digital and social media strategist at Weber Shandwick. These roles have helped thousands of clients provide better customer experiences.

Her upcoming book, titled "Seven Steps to Prepare Your Company for the Digital Disruption and IoT of Customer Experience", will help companies that want to prepare for and catch the wave of the digital revolution. Her prior books include: "Like My Stuff: Tactics to Monetizing Facebook Engagement", "People, Process and Technology: How CRM Should be Implemented", and "Reinventing Your Contact Center: A Manager's Guide to Successful Multi-Channel."

[@drnatalie](#) | www.constellationr.com/users/dr-natalie-petouhoff

[in www.linkedin.com/in/drnataliepetouhoff](http://www.linkedin.com/in/drnataliepetouhoff)



ABOUT CONSTELLATION RESEARCH

Constellation Research is an award-winning, Silicon Valley-based research and advisory firm that helps organizations navigate the challenges of digital disruption through business models transformation and the judicious application of disruptive technologies. Unlike the legacy analyst firms, Constellation Research is disrupting how research is accessed, what topics are covered and how clients can partner with a research firm to achieve success. Over 350 clients have joined from an ecosystem of buyers, partners, solution providers, C-suite, boards of directors and vendor clients. Our mission is to identify, validate and share insights with our clients.

Organizational Highlights

- Named Institute of Industry Analyst Relations (IIAR) New Analyst Firm of the Year in 2011 and #1 Independent Analyst Firm for 2014 and 2015.
- Experienced research team with an average of 25 years of practitioner, management and industry experience.
- Organizers of the Constellation Connected Enterprise – an innovation summit and best practices knowledge-sharing retreat for business leaders.
- Founders of Constellation Executive Network, a membership organization for digital leaders seeking to learn from market leaders and fast followers.



www.ConstellationR.com



[@ConstellationR](https://twitter.com/ConstellationR)



info@ConstellationR.com



sales@ConstellationR.com

Unauthorized reproduction or distribution in whole or in part in any form, including photocopying, faxing, image scanning, e-mailing, digitization, or making available for electronic downloading is prohibited without written permission from Constellation Research, Inc. Prior to photocopying, scanning, and digitizing items for internal or personal use, please contact Constellation Research, Inc. All trade names, trademarks, or registered trademarks are trade names, trademarks, or registered trademarks of their respective owners.

Information contained in this publication has been compiled from sources believed to be reliable, but the accuracy of this information is not guaranteed. Constellation Research, Inc. disclaims all warranties and conditions with regard to the content, express or implied, including warranties of merchantability and fitness for a particular purpose, nor assumes any legal liability for the accuracy, completeness, or usefulness of any information contained herein. Any reference to a commercial product, process, or service does not imply or constitute an endorsement of the same by Constellation Research, Inc.

This publication is designed to provide accurate and authoritative information in regard to the subject matter covered. It is sold or distributed with the understanding that Constellation Research, Inc. is not engaged in rendering legal, accounting, or other professional service. If legal advice or other expert assistance is required, the services of a competent professional person should be sought. Constellation Research, Inc. assumes no liability for how this information is used or applied nor makes any express warranties on outcomes. (Modified from the Declaration of Principles jointly adopted by the American Bar Association and a Committee of Publishers and Associations.)

Your trust is important to us, and as such, we believe in being open and transparent about our financial relationships. With our clients' permission, we publish their names on our website.

San Francisco | Belfast | Boston | Colorado Springs | Cupertino | Denver | London | New York | Northern Virginia
Palo Alto | Pune | Sacramento | Santa Monica | Sydney | Toronto | Washington, D.C

