Introduction
A total of 505 IT and business professionals completed a global survey on user experience and quantifying the business benefits of happy customers. The research additionally focused on what metrics define the user experience and the ability to collect those metrics across multiple devices, including the role machine learning and AI plays in the future of optimizing the user experience.

Executive Summary
This research finds that nearly every company equates direct business value from improving the end user experience. Participants cited retaining customers, attracting new customers, increasing profits and reducing support calls as top benefits from happier users, and more than 7 out of 10 machine learning or AI projects are focusing on improving the user experience today. However, almost every participant said it was challenging to collect user metrics across all devices, and more than half stated they cannot collect all the metrics they need. This has resulted in a majority of companies using multiple tools in an attempt to gather the data they need.

Participants further shared it is challenging for developers to properly code applications to gather critical user metrics, citing lack of time, skills and processes to support it. However, when IT and other stakeholders have the proper user information, they are able to improve the user experience and the bottom-line. As the quest for a better user experience continues, companies would benefit from a tool that reduces demand on developers and pulls the data to one place, making the information actionable in a business context.

Key findings
• Investing in the User Experience
  - 99% of companies expect business benefits from improved user experience
  - Improved user experience attracts & retains customers with increased profits and fewer support incidents
  - 74% of companies today are using AI and machine learning to improve the user experience
• Lacking the Entire User Picture
  - 95% of companies face challenges collecting metrics across user devices
  - 53% state their tools do not provide the user metrics they require
• Applications Challenging to Instrument
  - 73% indicate it is difficult for developers to code and tag applications to gather segmented end-user metrics
Detailed Findings

High Business Expectations

This research validated what many intrinsically know to be true - that happy customers lead to more business. The user experience is a combination of the product or service and the manner in which it is delivered. In context of applications it is the interface and flow of the application.

When companies were asked what benefits they expected from an improved user experience, four answers stood away from the rest. Companies expect reduced support incidents (66%), which not only prevent frustrations but reduce internal costs, but companies also expect a better experience to retain existing customers (64%). The second set of benefits expected was comprised of attracting new business (57%) and increasing profitability (52%). Thus, an improved user experience grows the business and reduces costs, a set of benefits any CEO would want for their business.

Users Experience Improvements Deliver Top-line and Bottom-line Benefits

Since the previous findings shared what companies wanted from a better user experience, the research then asked what benefit companies actually received from an improved use experience. These results closely match the desired benefits but in a slightly different order. 69% report that an improved user experience has retained customers, 59% benefited from increased profitability, 57% report attracting new customers, 64% retained existing customers, and 66% reduced support incidents. Thus, an improved user experience grows the business and reduces costs, a set of benefits any CEO would want for their business.

CA Digital Experience Insights

CA Digital Experience Insights is an AIOps-driven platform, which correlates data across users, applications, infrastructure and network services. Built on an open, flexible analytics foundation, CA Digital Experience Insights delivers intuitive reports and crash analytics that reveal a deeper understanding of your customers’ complete digital experience—across Web, mobile and wearables. Use these insights to grow and retain your customer base, increase revenue and quickly deliver innovation by boosting development productivity. To learn more, visit www.ca.com/dxi
fewer support incidents. An improved user experience also captured new customers (58%) and resulted in increased profits (49%). Thus, desired benefits are actually delivered, indicating that improving the user experience is not a red herring but a solid business strategy.

![Bar Chart: What benefits has your company already RECEIVED from improving the end-user experience?]

**Everyone Owns the User Experience**

The process to conceive an application then bring it to fruition involves many teams. The research sought to determine which teams actually own the user experience. The near identical top answers - IT operations (22%), development team (20%), a cross-functional team (19%) and application owners (18%) indicate both good and bad news. The good news is that many teams are involved and believe they own the user experience, making it easier to focus resources on making customers happier. However, the great diversity also indicates that today there is a lack of best practices or a specific role for improving the user experience, making it challenging for companies to leverage proven processes.

![Bar Chart: At your company who has primary responsibility for the end-user experience?]
Numerous Metrics Required to Measure the User Experience

The research then investigated how companies measure the user experience by asking what metrics are used to quantify and track the user experience. The multitude of metrics confirms that user experience is challenging to quantify and provide insights in several categories: actual feedback (67%), application usage patterns such as frequency of use (57%), user journey (52%), features used (49%), time on application (43%) and many others. Understanding the user experience also includes knowing which devices are accessing the application (35%). Another facet measured are business metrics, such as transactions completed (53%), and revenue (29%). This reveals that companies must have capable tools to collect and track these metrics in order to know they are improving the user experience in the most effective manner.

![Bar Chart]

In your experience, which of the following metrics should be measured to represent the end-user experience?

- Customer feedback and reviews: 68%
- Frequency of application use: 45%
- Transactions completed: 41%
- Process flow (customer journey): 34%
- Number of features or capabilities used: 31%
- Number of clicks: 29%
- Number of pages visited: 29%
- Duration on application: 25%
- Device type accessing application: 24%
- Revenue: 24%
- User segmentation: 19%
- Drop-offs: 18%
- We don’t track metrics to measure the end-user experience: 4%
Growing Investment in AI and Machine Learning

The large number of metrics and resulting proliferation of data has given rise to big data projects. The challenge is how to make all this user information actionable. This research finds that nearly three quarters (74%) of all companies today are already using machine learning and AI to improve the user experience. Of those not already using AI or machine learning today for improved user experience, 83% plan to do so over the next two years. Thus, in just two years, 96% of all companies will be using AI and machine learning to help stakeholders know where to focus their efforts to optimize the user experience and maximize the business.

<table>
<thead>
<tr>
<th>Is your company using AI or machine learning to improve the end-user experience?</th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>26%</td>
<td>74%</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Is your company planning on implementing AI or machine learning to improve the end-user experience over the next 2 years?</th>
<th>No</th>
<th>Yes</th>
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<tr>
<td>17%</td>
<td>83%</td>
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AI Initiatives are Still in Their Infancy

While the intent to leverage AI and machine learning is quite high, it is tempered by the fact that a majority of companies are just starting out. 58% of companies have only started their AI or machine learning project in the last 12 months. Only a select few (16%) have been at this project for 2 or more years, indicating that the technology and processes are still maturing for most companies.

<table>
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<tr>
<th>How long ago did your AI initiative for the end-user experience begin?</th>
<th>No</th>
<th>Yes</th>
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<tr>
<td>More than 2 years ago</td>
<td>16%</td>
<td>20%</td>
</tr>
<tr>
<td>Within the last 6 months</td>
<td>26%</td>
<td>16%</td>
</tr>
<tr>
<td>6 – 12 months ago</td>
<td>38%</td>
<td>44%</td>
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</table>
Most Organizations Blind to the User Experience that Spans Devices

Measuring the user experience is becoming more complicated as now multiple devices can access the same applications. Users now use the same application from different devices and in some cases start a task on one device and finish on another. This adds a whole other dimension to the collection and organization of user metrics. In order to fully optimize the user experience, you need the right data. Today, however, nearly all companies (95%) are challenged to fully track the user experience across devices. The top four challenges can be distilled down to tool deficiencies, starting with inability to support all user devices (44%), followed by poor correlation capabilities (43%), incompatibility with current platforms (41%) and, finally, missing functionality (37%).

![Bar chart showing reasons for challenging to gain insights on end-user metrics across devices](chart)

Most Companies Failing to Collect the User Metrics They Need

Given the preceding findings, it is not surprising that a majority (53%) of companies cannot gather all the metrics they need to measure the user experience. In fact, 17% reveal they lack even basic tools to track and gather user metrics. There is a saying that you can only improve what you can measure and this seems quite true for the user experience.

![Pie chart showing whether APM or user experience tools provide all end-user metrics](chart)
Companies Cobbling Tools Together

The research then attempted to understand how companies are gathering, analyzing and reporting on user metrics today. 72% of companies are using multiple tools to gather metrics, providing further evidence that a comprehensive solution to manage the user experience has not been deployed. Perhaps the challenge is that traditional tools only work for users on web browsers (computers) and other solutions are needed for mobile devices. This speculation appears to be valid as companies attempting to track the user journey across devices need multiple tools (82%). Thus only 17% of those surveyed have a single tool that provides full visibility for today’s common user.

Competing Priorities Makes Gathering User Metrics More Challenging

Many tools can passively monitor and collect user data, but these tools’ passive abilities are limited, requiring developers to place hooks and tags within their code to make specific information exposed and available for capture. Those surveyed shared that 73% of companies find it difficult for developers to properly instrument the code to gather the needed user metrics. Those that indicated it was difficult for developers were then asked “why?” The top two responses - lack of process (57%) and time consuming (52%) - can be distilled down to competing priorities, which also appeared directly at 40%. Only 41% really thought the issue was due to skill deficiencies.
Turning Metrics and Data into Action

For many companies the tools that gather and measure user metrics are run by IT teams. But as revealed earlier in this paper there are numerous groups who need the information to properly and effectively improve the user experience. This research finds that a little over half (64%) of IT teams can translate those metrics into information that other teams such as business stakeholders can interpret and then take action on. Meaning that either insights are missed, or that others must massage and correlate the information to make business decisions, which is likely driving the significant investment into AI and machining learning solutions.

Good Metrics Drive User Experience and Business Improvements

Although these findings show that IT does struggle with translating metrics into a language that other teams can easily understand, this research also finds that if IT does get comprehensive user information, they are proactive about providing suggestions to improve the business. 62% of those surveyed said IT has made suggestions to improve the user experience, followed by increasing application speed and reliability (52%), and, the ability to optimize the application flow and user journey (51%). There is a steep drop-off to 35% where they improve the bottom-line, indicating the value of getting key information to business stakeholders as well.
Conclusion

Overwhelmingly companies know that improving the user experience directly improves the business: it ticks all the boxes for top-line and bottom-line growth. But gathering all the metrics needed is a serious challenge, especially across devices, and most tools are not up to the job.

The user experience is not a pet project by the IT team or application stakeholders but is a proven initiative that delivers business value. Companies need to ensure they have the right tools that can collect all the user metrics they need, across devices and be able to deliver the information into a format ready for AI or machine learning solutions. User experience solutions need to minimalize efforts for development, and reduce the need to tag and instrument code so developers can focus on their core job of new and better features in the market before competitors.

Interestingly the user experience may be the next technology land grab. Those companies who figure this out first can protect their customers, steal customers away from competitors, and increase profits which will generate momentum for their company. If you believe your company is behind on optimizing the user experience, you need the right solutions and need to act now, or watch your customers move to a better experience with your competitor.

Survey Methodology

A total of 505 participants that were IT or business professionals completed the global survey on user experience. Participants had direct experience and responsibility for the user experience as part of their role. All participants were from enterprise companies with more than 1,000 employees. Participants represented each of the five continents. The survey was administered electronically, and participants were offered a token compensation for their participation.
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