APPDYNAMICS

The Future of Voice Technology In the Enterprise

TABLE OF CONTENTS

This report is based on a 2018 study examining the expectations of users and IT decision-makers regarding voice technology in retail, financial services, media, technology and healthcare.

AppDynamics partnered with Wakefield Research to survey 1,000 U.S. millennials and 1,000 U.S. IT decision-makers employed in the following industries: retail, financial services, media, technology and healthcare. The survey was conducted online between June 8 and June 18, 2018.

Voice technology innovation will drive changes in consumer behavior in the next three years or less.

Sources predict that 50% of all web search will be voice-driven by 2020. However, a majority of IT decision-makers underestimate the speed at which consumers will demand such changes, as well as how quickly their competitors will innovate on the voice experience.

The enterprise needs to monitor these shifts to stay ahead of changes.

Innovations in voice technology like smart speakers and similar products are driving new expectations among consumers. If enterprise businesses want to stay ahead of the curve, it's imperative that they closely monitor how trends in voice technology are driving awareness and demand of this type of functionality.

Research indicates the enterprise isn't 100% aligned with the changing expectations for voice UX.

As consumers become more familiar with voice-driven technology, their expectations for the voice experience will change. The enterprise must invest in improving speech recognition and other functionality to meet these new expectations.

Voice technology is poised to make a dramatic impact on the way people find, consume, and act on information in the years ahead.

In fact, ComScore predicts that half of all web searches will be conducted through voice by 2020[2].

So, what's the catalyst behind this shift?

Consumer brand experiences. Companies like Amazon, Google, Capital One, and Walmart are leading the way, pushing voice experiences into everyday activities like shopping, banking, and more. The end result is increased familiarity with and broader adoption of voice functionality.

Capital One, for example, launched "Capital One Skill" in 2016 to enable customers to check their bank account balance, pay bills, and track spending via any Amazon Alexa-enabled device.[3] And in 2017, Walmart and Google teamed up to offer voice-based shopping, allowing consumers to shop for more than 2 million Walmart items through Google's virtual assistant.[4]

55%

of U.S. households will have installed a smart speaker such as an Amazon Echo or Google Home by 2022.[1]

[1] Digital Voice Assistants: Platforms, Revenues & Opportunities 2017-2022
[2] Optimizing For Voice Search Is More Important Than Ever
[3] Bank on Alexa with Capital One's Expanding Skill for Managing Your Money
[4] Walmart, Google Partner to Make Shopping Even Easier – Here's How

There's enormous opportunity for both B2B and B2C organizations to leverage voice to acquire and retain new business.

Voice technology innovations could also be the missing link to engaging with the next generation of consumers. However, a survey performed by AppDynamics in partnership with Wakefield Research found that when it comes to the enterprise, many businesses still have work to do in order to prepare for this significant transformation.

In fact, insights from our research revealed that many IT leaders have underestimated the implications of this coming shift, risking misalignment between strategic initiatives and customer experience.

In this report, we'll highlight key insights from our survey research, as well as provide recommendations for how the enterprise can better leverage voice technology to build outstanding user experiences and drive adoption through innovation.[1]

[1] Digital Voice Assistants: Platforms, Revenues & Opportunities 2017-2022

The Demand For Voice Technology Is Increasing, But Is the Enterprise Keeping Up?

Voice technology is transforming our everyday experiences. Whether it's a latte, a pizza, or a car service, all have the potential to be delivered on demand with the help of a voice assistant. And with the next generation of users coming of age in this voice-driven world, the changes show no signs of stopping. As such, consumers have high expectations for what they expect from voice-driven technology.

In fact, our research revealed a strong preference by millennials to leverage voice technology in their everyday lives to manage their schedules and take care of routine tasks.

84%

of millennials said they rely on voice assistants to make their lives easier for things such as keeping track of their daily schedule and responsibilities.

Millennials report high usage of voice technology on a daily basis.

71%
of millennials report using voice assistants daily

46%
of all respondents use it 5x/day or more

IT leaders surveyed for this report agree on the utility and value of voice technology.

Given the consumer reliance and expectation on voice to be a simpler, more convenient way to complete everyday tasks, enterprise IT leaders are under significant pressure to ensure that any voice-enabled touchpoint they bring to market meets these requirements.

In fact, **61%** of IT decision-makers say they expect voice commands to completely replace manually typed commands for finding information on the Internet.
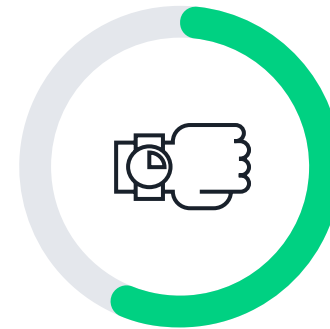
58%
of IT leaders say voice technology will help their customer base save time

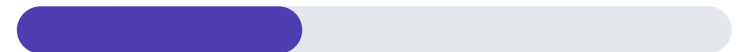50% of IT leaders say it'll provide quicker response times to customers

48% of IT leaders say it'll help them save money

46% of IT leaders say it'll provide better responses to inquiries

48% of IT leaders say it'll offer better service

So, if both consumers and IT leaders are in relative agreement about the power of voice technology, what exactly is the challenge?

Making sure the enterprise understands the urgency around this transformational shift, and that it prioritizes the right innovations to stay ahead of the curve.
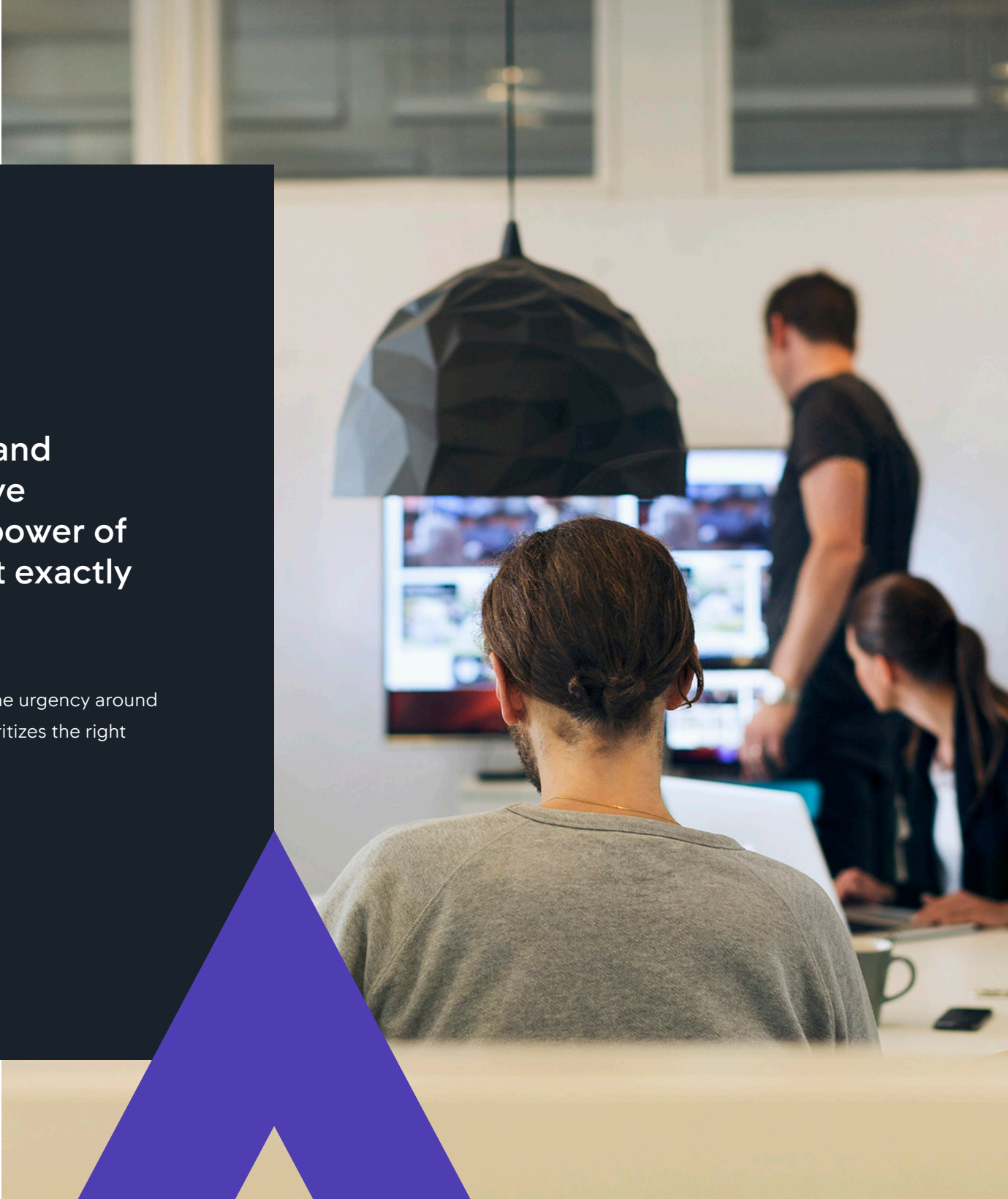
Enterprise Investment and the Future of Voice

There's no doubt that voice technology will continue to play a critical role in how we find, consume, and digest information. As aforementioned, by 2020, ComScore predicts that **50%** of all searches will be initiated by voice. Subsequently, it's no longer a question of if organizations will invest in voice, but rather a question of when.

Despite this, our research indicates a need for the enterprise to accelerate their investment in voice technology to not only accommodate growing consumer demand, but ensure relevance in the market and maintain the upper-hand in an increasingly competitive landscape.
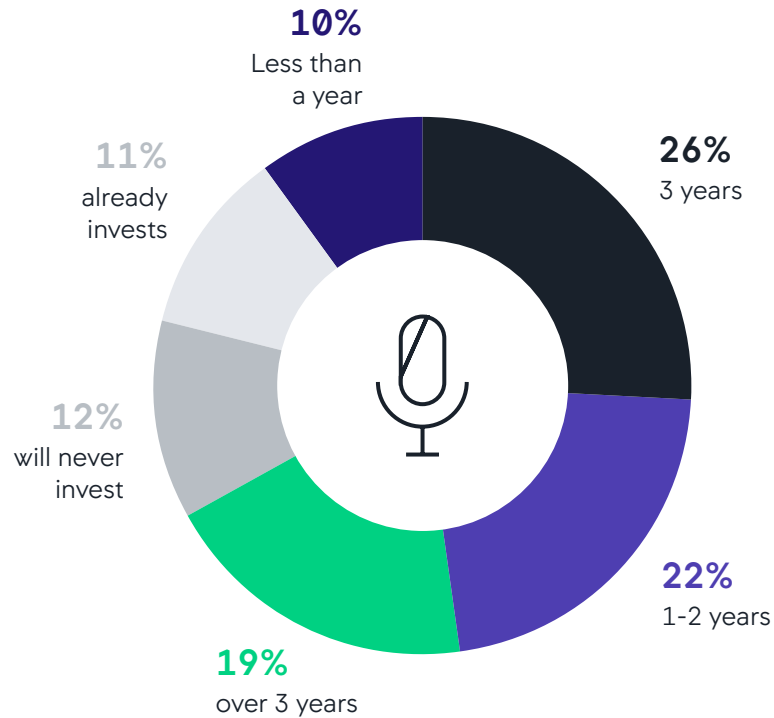
69%

of surveyed IT decision-makers work at companies that currently invest in or plan to invest in voice technology *within 3 years.*

Length of time until companies plan on investing in voice technology:

- **10%** Less than a year
- **11%** already invests
- **12%** will never invest
- **19%** over 3 years
- **26%** 3 years
- **22%** 1-2 years

The Need for Accelerating Investment in Voice Technology Within the Enterprise

Our survey found that a majority of IT leaders are already adjusting their product strategy to accommodate for this market shift. Surprisingly, however, businesses underestimate how long it will take for their peers and competitors to enter the voice race. When asked how long they believe it will take a majority of companies in their industry to begin investing in voice, only **7%** predict it will happen within the next year.

A majority of IT decision-makers— 53%—believe it will take over 3 years for their peers to even begin to invest in voice.

These results indicate that a majority of IT leaders are underestimating the rapidity of innovation and adoption within the voice technology space, putting their businesses and products at risk for falling behind the competition.

Fortunately, the solution is clear: Accelerate investment in voice technology within the enterprise. And that starts with addressing some of the core challenges to developing world-class voice technology functionality.

# The Biggest Challenge to Delivering Voice Technology

When they work as intended, voice interfaces enable consumers to bypass many manual processes like typing out search queries, scrolling through music libraries, or composing text messages. Unfortunately, voice functionality doesn't always work as intended, making it difficult to deliver an outstanding user experience. In some cases, these concerns make it too problematic for the enterprise to build voice functionality at all.

Of the companies that don't currently invest in voice, **67%** say that the fear of providing a poor user experience is the primary factor. And with good reason.

These error rates are higher than the human error rate of **5.1%**.

Of the companies currently investing in voice technology:

88%
experience a speech error rate above 6%

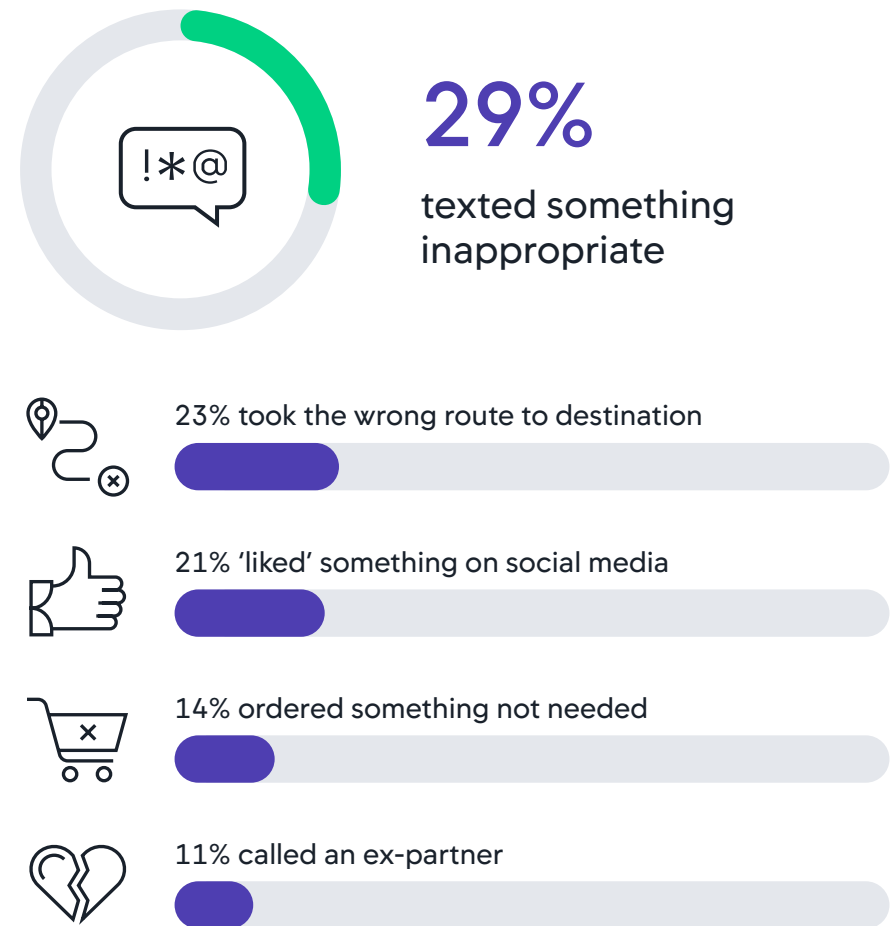## 35%
experience an error rate over 20%
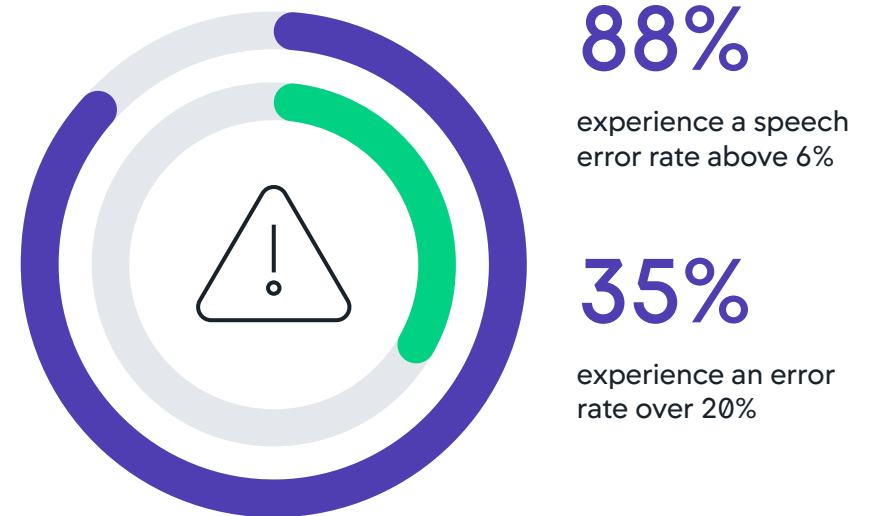
So, why would consumers interact with a technology that's so error-prone?

The answer is simple: consumers expect voice technology to work—always. It's why nearly half **(47%)** of millennials rarely or never review their voice-to-text commands for accuracy. But when they do review the text dictated through a voice command, they find errors **67%** of the time.

And consumers feel the consequences of these mistakes. Here are some examples of problems caused by voice interactions.

Problems with speech-to-text accuracy can lead to a poor user experience

29%
texted something inappropriate

23% took the wrong route to destination

21% 'liked' something on social media

14% ordered something not needed

11% called an ex-partner

These blunders align with a key roadblock IT leaders face when implementing voice: accuracy.

Of the enterprises currently investing in voice:

57%

say that ensuring that voice recognition is accurate is the biggest challenge.

Other challenges for enterprises currently investing in voice include:

54% making sure it's worth the cost

53% ensuring data security

52% making it easy for consumers to set up

Trusting Voice Assistants with Personal Information

Given the challenges IT leaders face implementing voice, the technology hasn't yet reached its full potential.

To date, voice-driven interfaces have been limited to basic commands and queries due to the maturity of voice technology. While Apple's Siri, Amazon's Alexa, and the Google Home are helpful devices, they're not yet intelligent enough to be true assistants.

But that doesn't mean there isn't consumer demand for this type of functionality. With increased innovation in this space and improved accuracy, we can expect products like these to evolve from mere task-masters to true assistants.

Which of the following types of information, if any, would you rather ask a voice assistant than manually searching for it yourself?
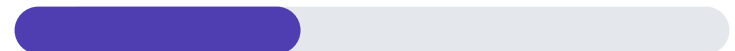
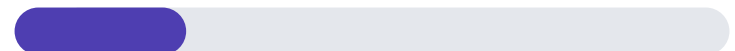62% say GPS directions

60% say weather information

40% say restaurant recommendations
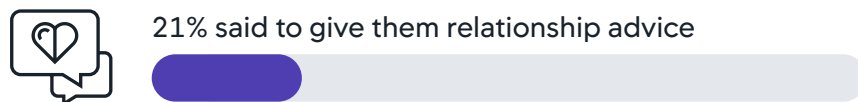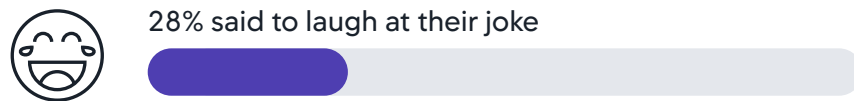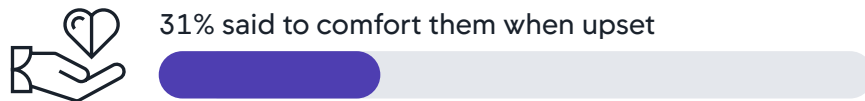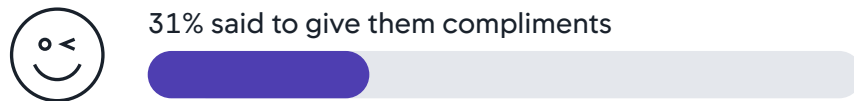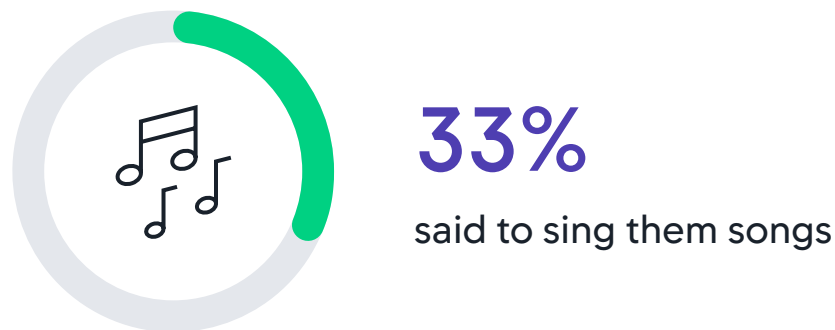
28% say flight or travel information

24% say bank account balance

But there's also appetite for a more personal, companion-like experience.

Which of the following do you wish a voice assistant would do for you?

33%

said to sing them songs

31% said to give them compliments

31% said to comfort them when upset

28% said to laugh at their joke

21% said to give them relationship advice

However, to get to this level of intimacy with voice technology products, consumer trust in voice technology is vital. Unfortunately, the enterprise has yet to deliver voice products that have gained this kind of consumer confidence.

In fact, **40%** of consumers are concerned about how inaccurate voice assistants can be, while **36%** are concerned that they're not secure enough. These are key challenges that the enterprise must address in order to remain ahead of the curve when it comes to voice technology.

Aligning to Consumer Behavior and Needs

Survey results also point to a troubling trend: Enterprises are struggling to understand millennial expectations when it comes to voice.

As the next generation of software users matures, this represents a significant challenge to many organizations, and a missed opportunity if not addressed.

In our survey, we discovered that enterprises believe a majority **(62%)** of consumers would rather get their bank account balance from a voice assistant than a human. However, according to responses from millennials, only **24%** would rather ask a voice assistant for their bank account balance rather than manually search for it themselves. While this sentiment may be based on a variety of factors, the bottom line is that there's a misalignment between enterprise perspectives on voice technology functionality and what features users actually want. To avoid wasting valuable resources on the development of the wrong innovations, enterprise businesses must spend time aligning with user expectations and prioritize improvements accordingly.

Businesses should take two key actions:

01 Leverage user research data to prioritize the right voice technology improvements at the right time.

Voice technology is poised to revolutionize the way consumers interact with businesses and products. But in our effort to prepare for these coming changes, it's important that enterprise businesses take a focused approach to improvements. Prioritize the voice technology improvements users are more likely to adopt today, and earn users' trust over time in order to push broader or behavior-changing updates.

02 Identify misalignment between user expectations and actual experience of your voice technology, and then dig deeper to discover the root cause(s) of those preferences.

Only 24% of millennials would rather ask a voice assistant for their bank account balance over manually performing this task themselves.

Is this because of a perceived security risk related to this activity?

Or is it due to having had this functionality fail millennials in the past?

If you want to deliver a better user experience, you have to dig deeper to understand the root cause of these preferences. In this case, you'd need to determine if this misalignment is due to the failure of voice technology to provide accurate responses in this use case, causing an avoidance of this functionality, or if it's actually due to a perceived security threat.

Taking the time to identify where there's misalignment will help you focus on the right improvements to voice technology.

Another surprising discovery in our research?

57% of enterprises believe that the biggest concern consumers have around voice technology is that it's too expensive (the devices that host them). However, when the same question was posed to millennials, only 23% were concerned with cost.

Their biggest concern? Inaccuracy.

These misalignments can lead to a misinformed product strategy and ultimately hinder product adoption. As aforementioned, this is precisely where a deeper analysis is needed to uncover the actual pain point and problem to be solved.

Advancements In Voice Technology Are Fast-Approaching

Advancements in voice technology will change the way we find, consume, and act on information in the modern world. And with consumer devices like Google Home and Amazon Alexa becoming a part of our daily lives, these changes will happen sooner rather than later. As consumers become increasingly familiar with this technology, the bar will inevitably be raised for the user experience, prompting the demand for improved accuracy and reliability of voice technology.

85%

of millennials surveyed report errors in voice-dictated texts alone, which might typically dampen enthusiasm for such features.

Yet, our research revealed quite the opposite—this group expressed a clear desire to leverage voice technology in their daily lives, from scheduling daily activities to completing routine tasks.

For the enterprise businesses that meet these demands related to voice technology, there are clear rewards that come in the form of product and brand loyalty, as well as growth among millennials, the next generation of decision-makers and early adopters.

For enterprise businesses everywhere, these insights should serve as a clarion call for improving application performance as it relates to voice technology both in the near and long-term.

About AppDynamics

AppDynamics is the Application Intelligence company. With AppDynamics, enterprises have real-time insights into application performance, user performance and business performance so they can move faster in an increasingly sophisticated, software-driven world. AppDynamics' integrated suite of applications is built on its innovative, enterprise-grade App iQ Platform that enables its customers to make faster decisions that enhance customer engagement and improve operational and business performance. AppDynamics is uniquely positioned to enable enterprises to accelerate their digital transformations by actively monitoring, analyzing and optimizing complex application environments at scale.

Learn more at appdynamics.com