

Multi-Year Developer Survey Reveals Evolving Practices and Foreshadows Further Change

In 2017 and again in 2018, PreEmptive surveyed over 15,000 professional developers asking about their organization's current and projected use of a broad cross-section of development languages and frameworks.

Evaluating each annual survey result on its own and together as a whole offers insights into current practices, assumptions about future trends as well as actual trends themselves.

This multi-year survey shows a professional development community attempting to reduce the number of languages and frameworks while simultaneously increasing their commitment and investments in the technologies they retain. As this maturation occurs, overall clarity and confidence in their architecture and mission improves.

Table of Contents

Survey background	1
Clarity increases by 21% year over year	1
Java (non-Android) overall usage declines while Android expansion continues to accelerate	2
Java (non-Android).....	2
Organizations with strategic commitments to Java moving quickly to “status quo”	3
Android development is growing and forecasted growth is high.	3
Organizations with strategic commitments to Android remain committed and positive.....	4
.NET Framework Classic maintains near saturation levels but developers sense a change is coming	5
Organizations with strategic commitments to .NET remain committed but cracks are showing here too	6
Xamarin adoption rates are relatively flat but developer enthusiasm is unprecedented	6
Strategic Xamarin development organizations project meteoric rise in Xamarin adoption	7
Conclusion	8

Survey background

Figure 1 lists the languages and frameworks queried in the two-part survey and Figure 2 lists the assessment options for current usage and forecasted adoption available to survey respondents.

Languages and Frameworks Covered		
.NET Framework Classic	Java (non-Android)	Objective C
.NET Core	Android	Swift
UWP	C/C++	
Xamarin		
Interpreted Languages, e.g. JavaScript, Perl, PHP, Python, Ruby, R		

Figure 1: Languages and frameworks

Usage assessments and forecasts	
Current usage	24 month forecast
No development	Increasing
Non-essential development	Decreasing
Essential components	No change
Primary or exclusive development language	Don't know
Not sure	

Figure 2: Current usage and 24 month assessment options.

Clarity increases by 21% year over year

The percent of respondents that indicated that they did not know their organization's 24 month plans for any given technology decreased from 19% in 2017 to 15% in 2018 – a decline of 21%. The trends that are suggested reflect both an evolution of development practices as well as a maturation and clarity of vision.

Java (non-Android) overall usage declines while Android expansion continues to accelerate

Java (non-Android)

Java usage dropped to 38.4% of all respondents in 2018 from 45.6% in 2017 – a 16% relative decline. Further, virtually every individual Java development metric declined as well.

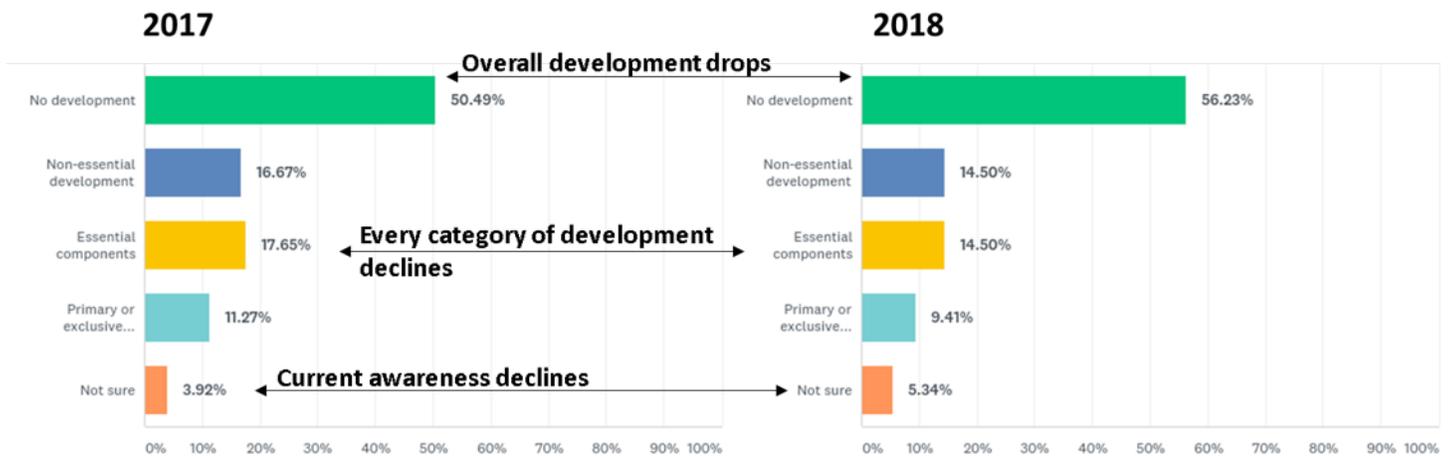


Figure 3: Java (non-Android) usage

The outlook for future Java development is also receding.

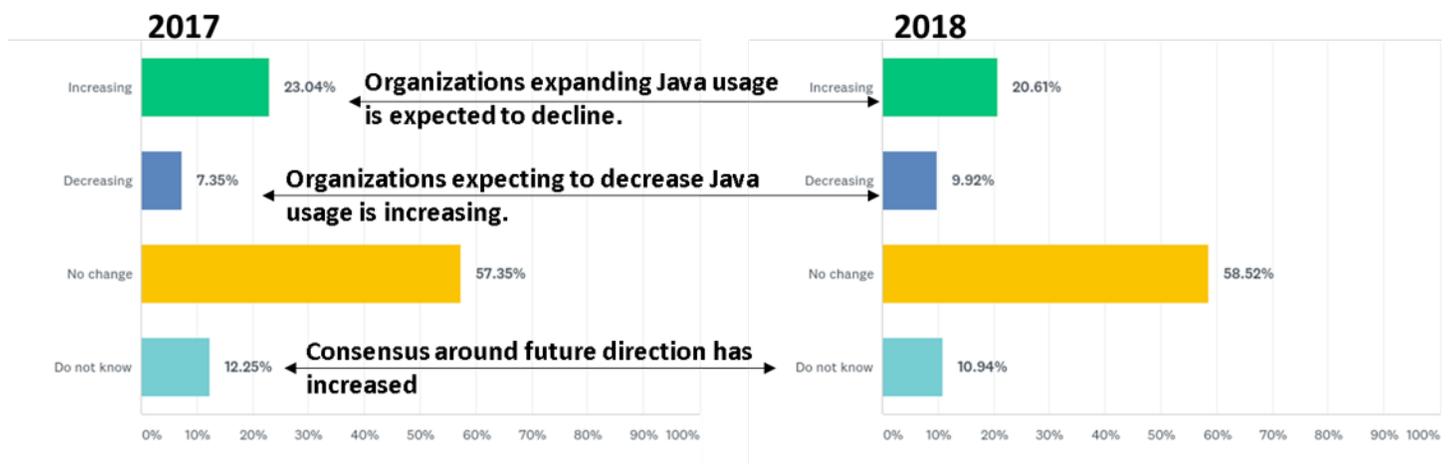


Figure 4: Java (non-Android) adoption forecast

Organizations with strategic commitments to Java moving quickly to “status quo”

Organizations that rely upon Java for “essential component development” or who identify Java as their “primary” or “exclusive” development language show are scaling back their expansion of Java adoption and solidifying their current investments.

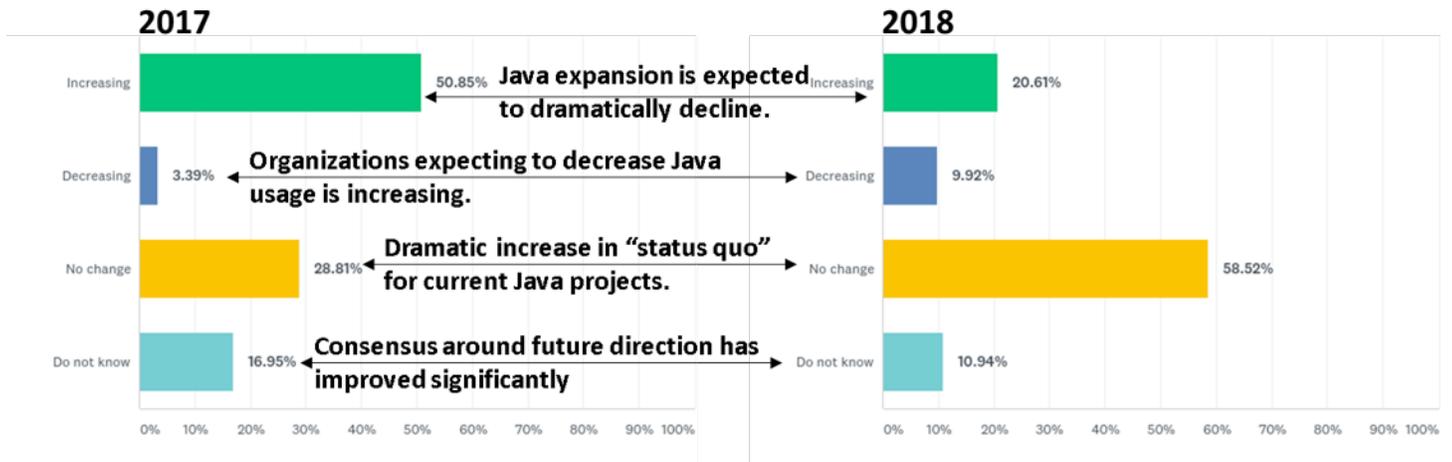


Figure 5: Java (non-Android) adoption forecast from “strategic organizations.”

Android development is growing and forecasted growth is high

Android development is growing and forecasted growth is high. However, 2017’s forecast appears to have been somewhat optimistic, as the forecasted rate of growth was not achieved.

Android usage increased to 62% in 2018 from 58% in 2017 – a relatively modest increase of 7%. Individual Android development metrics show adoption will remain strong but has likely reached a plateau.

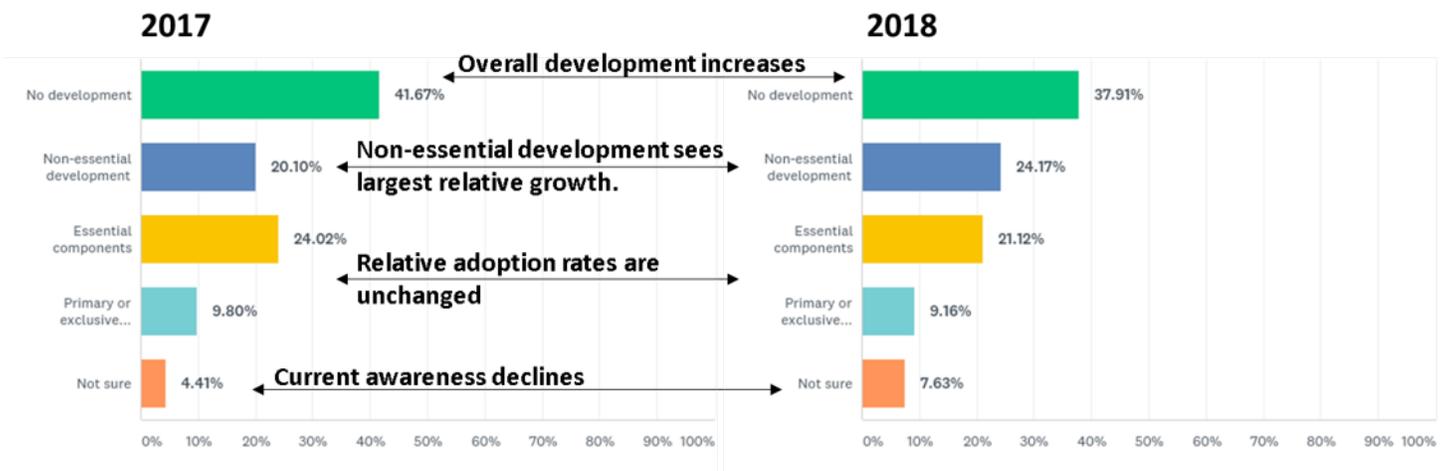


Figure 6: Android usage.

Overall forecasts for Android adoption remain constant.

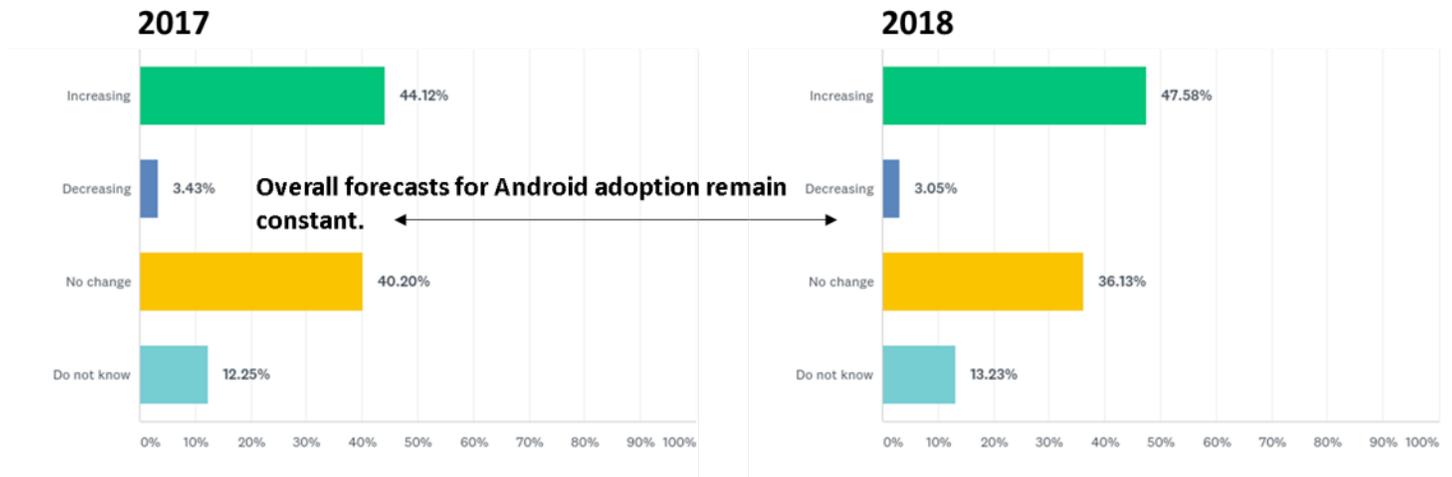


Figure 7: Android adoption forecast.

Organizations with strategic commitments to Android remain committed and positive.

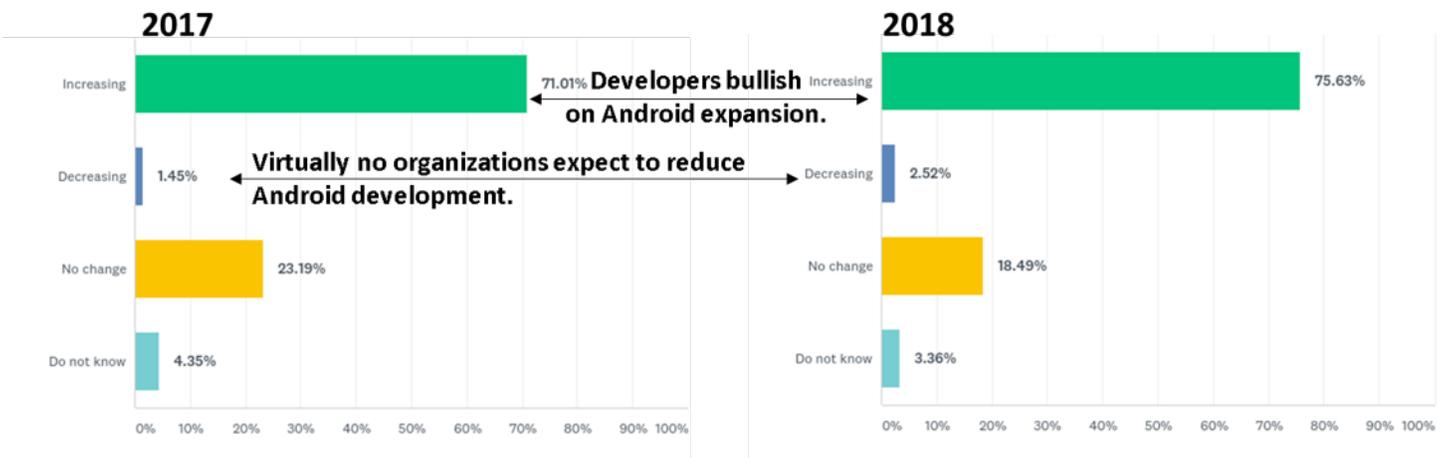


Figure 8: Android adoption forecast from "strategic organizations."

Three quarters of all respondents whose organizations use Android strategically expect Android usage to increase in the next two years.

.NET Framework Classic maintains near saturation levels but developers sense a change is coming

.NET Classic rose to a 93% adoption rate in 2018 up from 90% in 2017. Unlike Java, .NET Classic has maintained a near total saturation level.

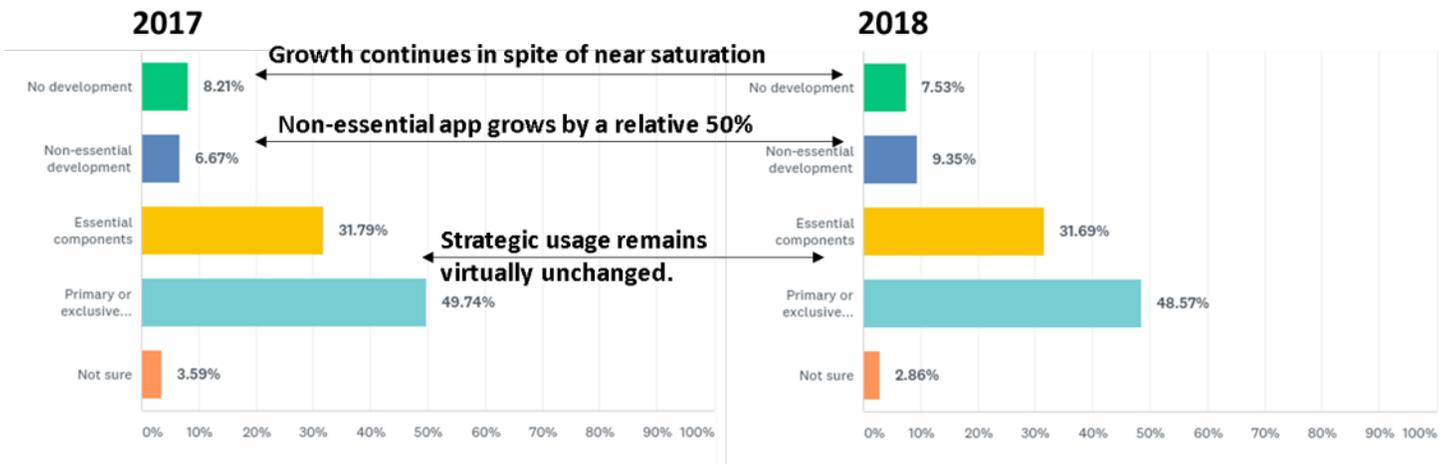


Figure 9: .NET Classic Usage

More ominously perhaps are the development leading indicators. All of these suggest that the rate of .NET Classic growth is slowing and the number of organizations decreasing their reliance upon .NET Classic is increasing.

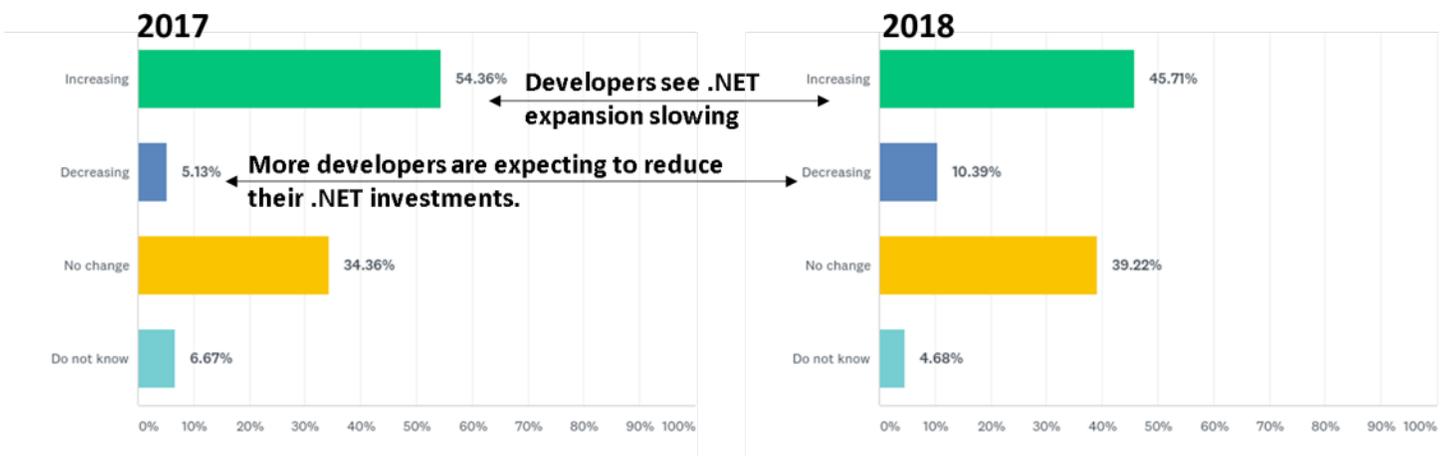


Figure 10: .NET Classic adoption forecast

Organizations with strategic commitments to .NET remain committed but cracks are showing here too

While the number of developers who see .NET Classic adoption increasing shows some decay, it is still the majority view. Further, .NET Classic development teams that are stabilized (not expecting further change) increased by 50%.

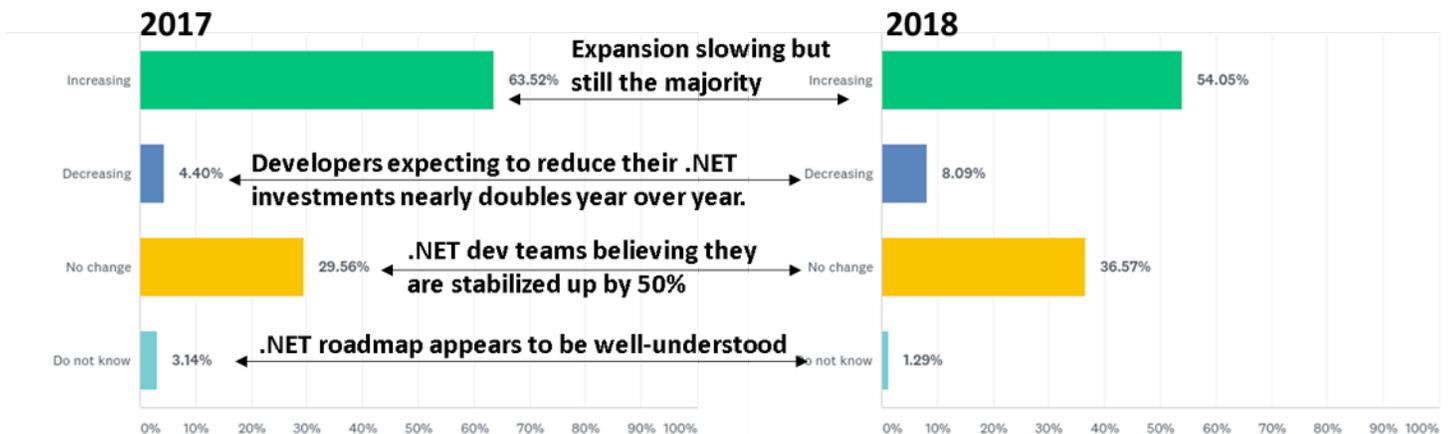


Figure 11: .NET Classic adoption forecast from "strategic organizations."

Xamarin adoption rates are relatively flat but developer enthusiasm is unprecedented

Xamarin adoption sits at 48% in 2018 after hitting 52% in 2017.

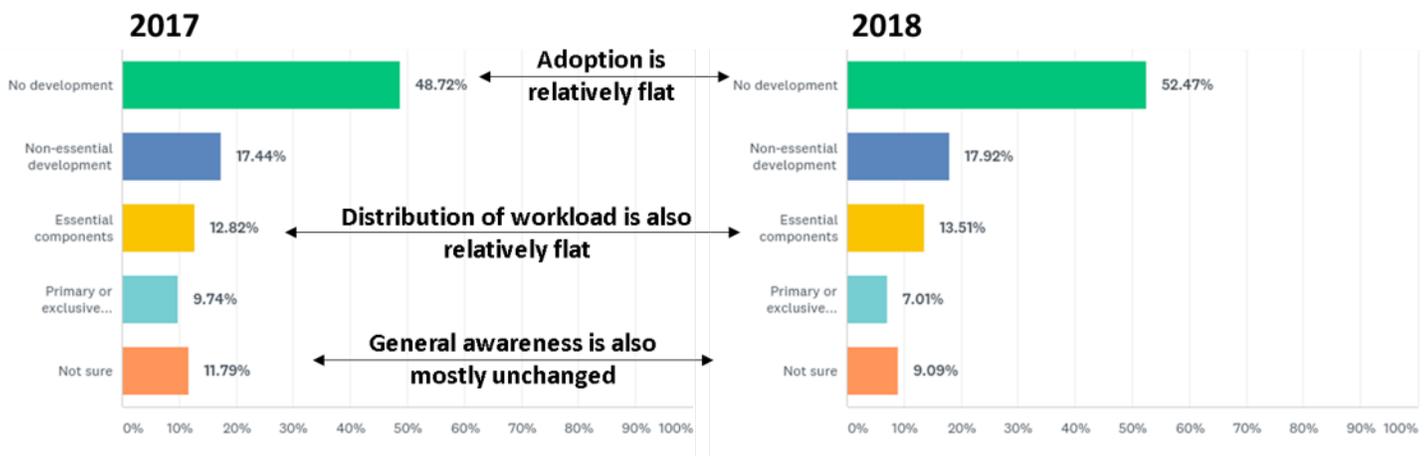


Figure 12: Xamarin Usage

While also relatively flat, all leading indicators suggest that adoption rates may be accelerating upwards. However, this trend does not become obvious until non-strategic developers are removed from the results.

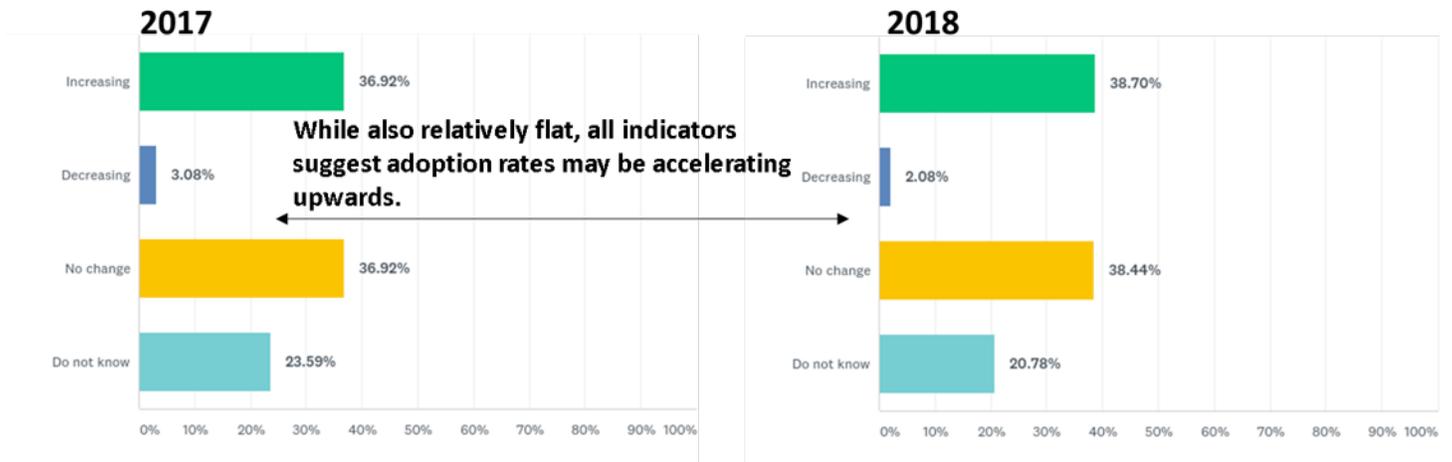


Figure 13: Xamarin adoption forecast

Strategic Xamarin development organizations project meteoric rise in Xamarin adoption

The enthusiastic commitment to Xamarin within organizations that have already committed, at least in part, to strategic development projects is unprecedented when compared to any other contemporary language or framework.

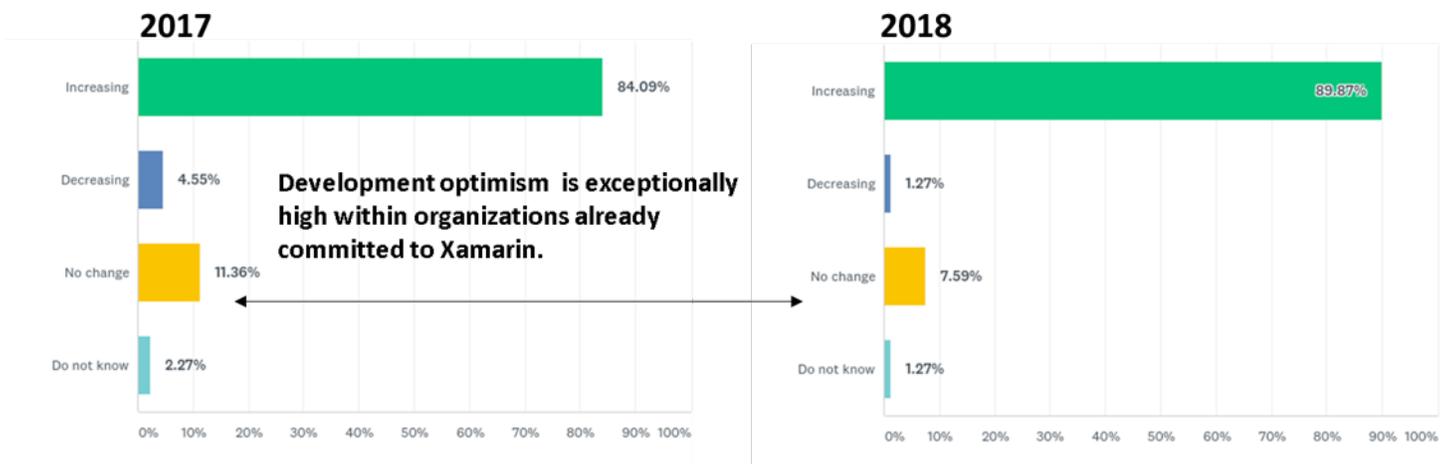


Figure 14: Xamarin adoption forecast from "strategic organizations."

Conclusion

Even as modern frameworks take hold, contemporary languages and platforms continue to provide significant value and garner sustained developer loyalty. Java has plateaued and .NET Classic is approaching a similar inflection point. Yet Android clearly has plenty of life and growth ahead and Xamarin appears poised to take its adoption rates to an entirely new level.

For a summary of responses to all questions in both 2017 and 2018 surveys, visit [Language Survey Data 2017](#) and [Language Survey Data 2018](#).