

Research Article

Exploring Attitudes of ASP.NET Web Developers toward New Technologies:

Silverlight, MVC 3, HTML 5, Internet Explorer 9

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Published: January 4, 2011

Summary

The challenge for all technology innovators is to ensure their technologies stay relevant for users who consume the technology, remain important to the developers who develop with the technology and adapt to competitive forces in a constantly changing technology landscape. One important aspect of business intelligence is to track the opinions and attitudes of developers. Based on the results of a September 2010 survey of DiscountASP.NET customers, general attitudes of ASP.NET web developers toward new technologies are explored, including MVC 3, Silverlight, HTML 5 and Internet Explorer 9. The survey results are viewed using different comparisons and segmentation techniques to observe underlying trends.

Introduction

All technologies go through a lifecycle in the marketplace. Technology adoption is dynamic and is influenced by changing consumer interests and behavior, developer's interest in using the particular technology, and many other competitive factors. To keep the technology relevant in the marketplace, the technology innovator must understand the changing consumer behavior trends, sustain the passion of their core developers, and adapt to the changing technology landscape. Therefore, one important aspect of business strategy is to track the opinions and attitudes of developers.

To illustrate the interplay of the changing technology landscape and the challenges of technology innovators, we can point to a real example of Microsoft Silverlight where the story is still unfolding. Over the past year and a half, we witnessed increased debate around the relevancy of Microsoft Silverlight with the emergence of HTML 5 standards, which promises to bring rich internet application (RIA) capabilities to the browser without the need for proprietary plug-ins.^{1 2 3 4} The voices heard in the

¹ <http://visitmix.com/Opinions/HTML5-vs-Silverlight-Which-Will-Win>

debate included analysts, anti-Microsoft developers, passionate Microsoft-centric developers and frustrated Silverlight developers. In early September 2010, to address the growing debate, the Microsoft Silverlight team published a blog post entitled “The Future of Silverlight”⁵ to outline how Silverlight fits in along with emerging standards.

At the Professional Developers Conference (PDC) 2010 in late October 2010, Microsoft CEO, Steve Ballmer, affirmed Microsoft’s commitment to HTML 5 during the keynote presentation⁶ and Dean Hachamovitch, Corporate Vice President in charge of Internet Explorer, presented some compelling Internet Explorer 9 (IE9) demos. However, there was noticeably little mention about Silverlight. Bob Muglia, President of Server and Tools Division at Microsoft, was interviewed during the PDC conference and was questioned about the lack of Silverlight content during the keynote. Mr. Muglia responded that Microsoft’s strategy for Silverlight has shifted.⁷ When this interview was made public, it quickly became one of the most popular articles of the year,⁸ and the follow-up discussion primarily focused on the shift in Silverlight strategy over other content of the interview. This in turn led to uproar from the Silverlight developer community.^{9 10 11} Bob Muglia,¹² Steve Ballmer,¹³ and Scott Guthrie¹⁴ (Corporate Vice President of .NET Developer Platform at Microsoft) responded with online posts.

Microsoft then announced the Silverlight Firestarter 2010¹⁵ conference to be held on December 2, 2010 to discuss the future roadmap of Silverlight. This conference was critical for Microsoft to get more control over the conversation around Silverlight and to demonstrate their commitment to Silverlight developers. During the Silverlight Firestarter keynote, Scott Guthrie announced Silverlight 5 which is to be available in beta sometime in H1 2011 and officially released by end of 2011. The announcement of Silverlight 5 has been met with enthusiasm from Silverlight developers.

As the Silverlight and HTML 5 technologies advance and stir debate, one can fully appreciate the challenges of technology innovators and the importance of demonstrating continued commitment to core developers. The example of Silverlight highlights the importance of keeping track of attitudes and interests of developers.

² <http://www.silverlighthack.com/post/2010/02/08/Top-Reasons-why-HTML-5-is-not-ready-to-replace-Silverlight.aspx>

³ <http://www.infoworld.com/d/developer-world/html-5-could-it-kill-flash-and-silverlight-291>

⁴ http://www.theregister.co.uk/2009/08/28/html_5_dream/

⁵ <http://team.silverlight.net/announcement/the-future-of-silverlight/>

⁶ <http://player.microsoftpdc.com/schedule/sessions>

⁷ <http://www.zdnet.com/blog/microsoft/microsoft-our-strategy-with-silverlight-has-shifted/7834>

⁸ <http://www.zdnet.com/blog/microsoft/readers-vote-with-their-clicks-the-20-hottest-microsoft-stories-in-2010/8284>

⁹ <http://forums.silverlight.net/forums/p/207084/487334.aspx>

¹⁰ <http://www.streamingmedia.com/Articles/Editorial/Featured-Articles/Silverlight-Comments-Inflame-Developers-71165.aspx>

¹¹ <http://cmsreport.com/blog/2010/microsofts-silverlight-developers-are-angry>

¹² <http://team.silverlight.net/announcement/pdc-and-silverlight/>

¹³ <http://www.microsoft.com/presspass/press/2010/nov10/11-01Statement.msp>

¹⁴ <http://weblogs.asp.net/scottgu/archive/2010/11/04/silverlight-questions.aspx>

¹⁵ <http://www.silverlight.net/news/events/firestarter/>

In this research article, we explore the attitudes of our customers toward new upcoming technologies, including Silverlight, MVC 3, HTML5 and Internet Explorer 9, and we examine these attitudes using different comparison and segmentation methods. First we look at global trends and confirm that we are seeing similar trends on technology adoption as reported in earlier research papers. Next, we focus on our USA-based customers and segment the results by hosting age. Then we segment the USA-based customer survey results by those who have experience building mobile applications and those that do not have such experience.

Methodology

This report is based on a set of questionnaires that was sent out in September 2010 to 21,025 customers who host their web sites with DiscountASP.NET. The response rate was 4.1% and we received complete responses from 852 clients.

It should be noted that the survey was conducted in September 2010, which was prior to the PDC 2010, prior to the availability of Microsoft Windows Phone 7 operating system (OS) in the marketplace, and prior to the Silverlight Firestarter conference.

Customer Profile

Web Site Development Expertise

Among the respondents of our September 2010 survey 5% of survey takers described themselves as beginner level web developers and 9% were web site owners who outsourced their web site development. The remaining 86% of the customers described themselves as intermediate to advanced developers. A large majority of customers are skilled web developers.

ASP.NET Adoption

We asked customers about the technologies used to power their web sites and 95% of the respondents reported powering their web sites with ASP.NET. The DiscountASP.NET customer base represents a rich sample of ASP.NET web developers.

Silverlight and Flash Adoption Trends

In a previous article, we reported that we observe a general increase in the use of Microsoft Silverlight in customer sites and a general decline in the use of Adobe Flash.¹⁶ To confirm this general technology adoption trend among our customers, we compared our September 2010 survey results against our previous survey results from April 2010. Even within a 5 month time period, we observe growth in the

¹⁶ <http://blog.discountasp.net/research-article-silverlight-surpasses-flash-use-among-recent-shared-asp-net-hosting-customer-web-sites/>

use of Silverlight among our customer base between April 2010 and September 2010 as depicted in Figure 1. In April 2010 we observed a global average of 21% of our customer base using Silverlight in their web presence.¹⁷ Based on our September 2010 survey, the global average use of Silverlight is 30% - an increase of 9%. This increase in Silverlight adoption is most likely fueled by the official launch of Silverlight 4 on April 15, 2010, which demonstrates the importance of a rapid cadence of versions to help drive Silverlight adoption.

During the Silverlight Firestarter event on December 2, 2010, Scott Guthrie introduced Silverlight 5.¹⁸ We will continue to track the changes in Silverlight adoption among our customer base as Microsoft continues to launch new versions.

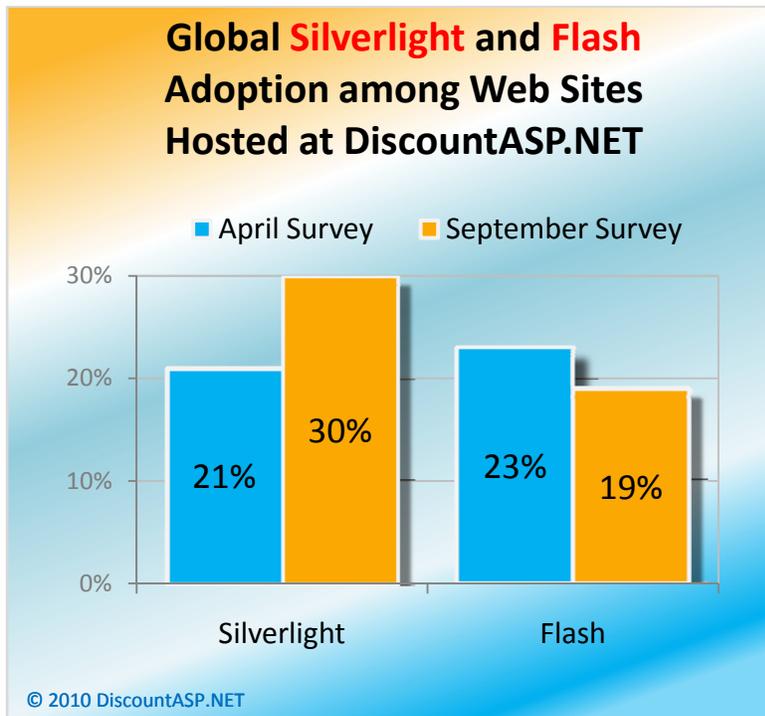


Figure 1 Silverlight and Flash adoption trend between April and September 2010 surveys

¹⁷ <http://blog.discountasp.net/research-article-silverlight-surpasses-flash-use-among-recent-shared-asp-net-hosting-customer-web-sites/>

¹⁸ <http://channel9.msdn.com/Series/Silverlight-Firestarter/Silverlight-Firestarter-2010-Keynote-with-Scott-Guthrie>

While our results relate to the delivery of Silverlight RIA web experiences, a recent article on the topic of predicting Silverlight 5 adoption shows interesting trends on the consumption side of the Silverlight experience with plots of the Silverlight version plug-in adoption within browsers over time.¹⁹ Rather than hitting a saturation point with the lifecycle of a particular version, the Silverlight adoption is observed to increase with each release of new versions. In the article, the author Colin Eberhardt, projects that “Silverlight 5 will have a 76% adoption by the end of 2011, and that the total Silverlight adoption will be 81%.” We observe a similar trend in the adoption of Silverlight within web sites that are hosted at DiscountASP.NET.

During the same timeframe, we observe a decline in use of Flash as depicted side-by-side in Figure 1. In our April 2010 study we reported that the global Flash adoption among our customers was at 23%. Just five months later, the global Flash adoption has declined 4% to 19%. This decline in Flash adoption is interesting. Although the Adobe Flash cadence of new version releases is slower at a roughly 2 year cycle, Flash 11 (Adobe Flash Professional CS5) was released in April 2010.²⁰ With a new version being released we would expect to observe a rise in Flash adoption, but we observe a decline. We suspect that this decline in Flash use is attributed to Apple’s April 2010 announcement of the ban of Flash on the iPhone.^{21 22} Apple’s announcement most likely affected the developer’s decision to continue investing in Flash development. In September 2010, Apple announced relaxing its policy on third-party toolkits,²³ but developers remain skeptical to seeing Flash on the iPhone.²⁴ This observed trend highlights how technology adoption can be affected by outside forces of the changing technology landscape. We will continue to track the changes in Flash adoption trends among our customer base.

Profile of USA-based Customers

We now focus on our USA-based customers as they represent the largest customer base segment and with the large sample we can segment the data by their hosting age. By segmenting the survey results in different ways, we can see some underlying trends that are not observed by simply examining overall averages.

Growth in MVC 3 Interest

One interesting result is observed when we view the interest level in MVC 3 segmented by web hosting sign-up age. We asked our customers to rate their interest level in MVC 3 on a scale of 1 to 5. Figure 2 shows the percentage of high MVC 3 interest (level 5) from DiscountASP.NET customers who signed up their hosting account in 2007, 2008, 2009, and in the first half of 2010. For our USA-based customers, we see an increase in MVC 3 interest level with our younger customers. While the average high interest

¹⁹ <http://www.scottlogic.co.uk/blog/colin/2010/12/silverlight-5-adoption-predictions/>

²⁰ http://en.wikipedia.org/wiki/Adobe_Flash

²¹ http://daringfireball.net/2010/04/iphone_agreement_bans_flash_compiler

²² <http://www.apple.com/hotnews/thoughts-on-flash/>

²³ <http://tech.fortune.cnn.com/2010/09/09/why-did-apple-lift-its-ban-on-apps-written-in-flash/>

²⁴ <http://www.wired.com/gadgetlab/2008/11/adobe-flash-on/>

level in MVC 3 is 18%, the high interest level starts at 9% for customers who signed up in 2007 and increases to 27% for customers who signed up in 2010.

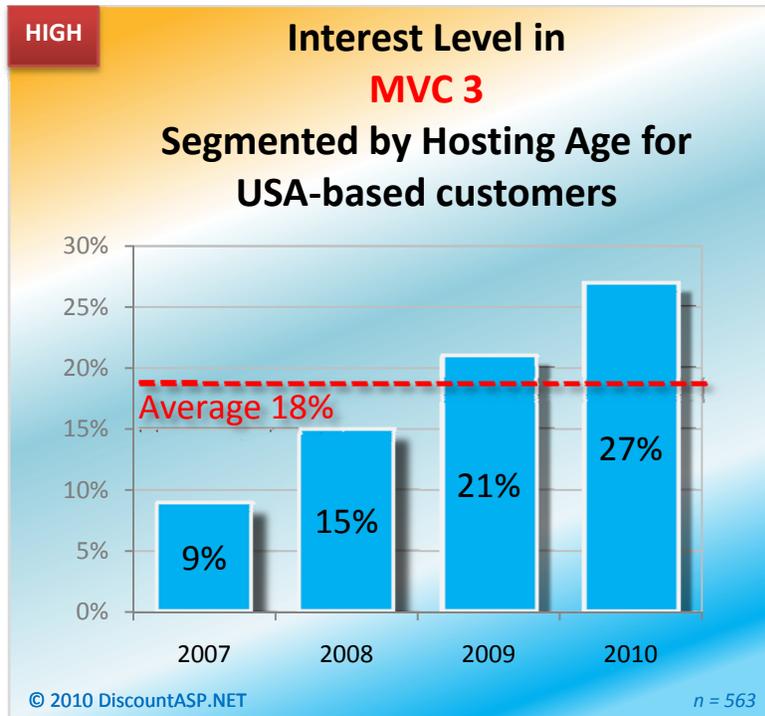


Figure 2 High interest level in MVC 3 segmented by hosting age

We infer that our younger customers are typically ASP.NET web developers who will be utilizing newer technologies for their web sites and are thus more interested in newer technologies over customers who have built their web sites years ago based on older technology.

Interest in Internet Explorer 9

We measured the interest level in Internet Explorer 9 segmented by web hosting sign-up age. We asked our customers to rate their interest level in IE9 on a scale of 1 to 5. Figure 3 shows the percentage of high IE9 interest (level 5) from DiscountASP.NET customers who signed up their hosting account in 2007, 2008, 2009, and 2010. We observe that the high interest level for IE9 is fairly steady across the customer hosting age with an average of 32%, much higher than the average interest in MVC 3.

While we observed differences in MVC 3 interest level with our customer hosting age, the high interest level for IE9 is fairly steady across the same segmentation showing that not all new technologies follow the same growth trend in interest across hosting age and some new technologies remain equally appealing to all ASP.NET web developer customers.

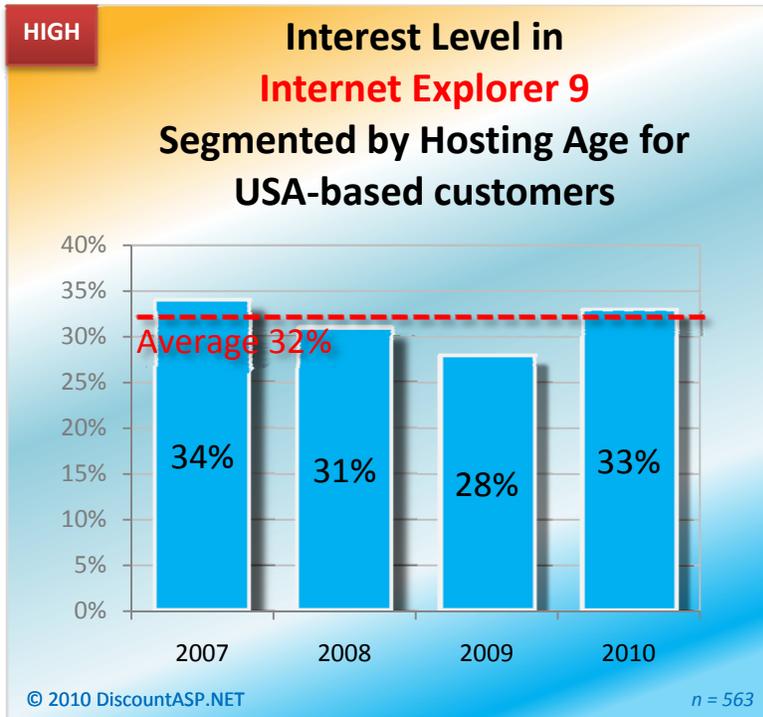


Figure 3 High interest level in Internet Explorer 9 segmented by hosting age

Mobile Application Development Experience

In a previously published research paper,²⁵ we segmented our USA-based customers into two groups – those that had experience building mobile applications and those that did not. Figure 4 shows the breakdown. We observe that 61% of the USA-based customers did not have experience building mobile applications and 39% had experience building mobile applications.

In the next section, we view the differences between these two groups in their attitudes toward new upcoming technologies to gain insights that are not observed by simply examining averages.

As labeled in Figure 4, for the rest of this article, when stating “mobile application developers” we are referring to this 39% of the customers that have experience building applications. We will refer to the 61% with no experience in building mobile apps as “ASP.NET web developers.” It should be noted that the mobile app developer group are also ASP.NET web developers but we adopt this naming convention for convenience.

²⁵ <http://blog.discountasp.net/profile-of-mobile-developers-and-aspnet-web-developers-implications-on-wp7-strategy/>

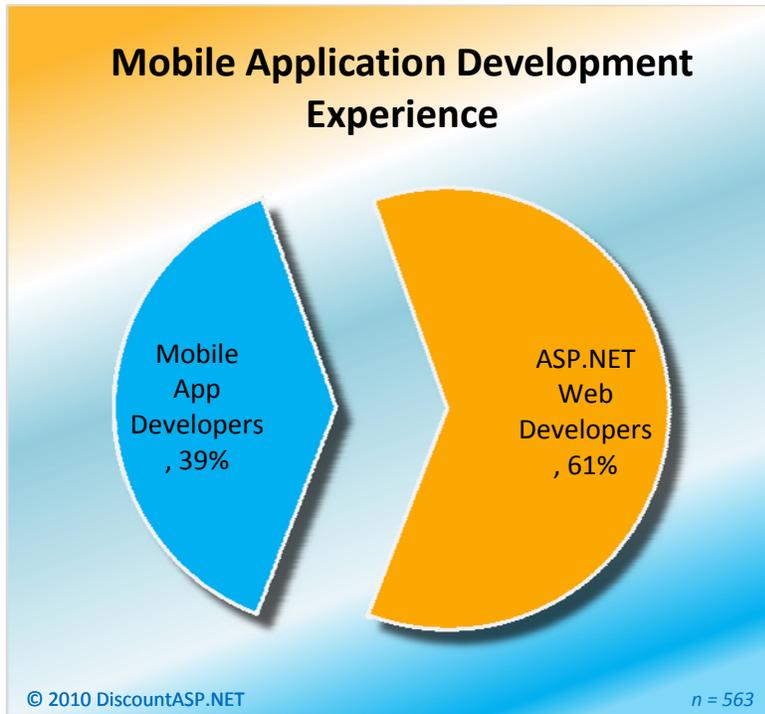


Figure 4 Percentage of USA-based customers who have and have not built mobile applications

Mobile Developer and ASP.NET Developer Attitudes toward New Technologies

Silverlight as a Mobile Development Platform

Since Silverlight will be one of the main development platforms for Windows Phone 7 applications, we wanted to measure the differences in attitudes toward Silverlight among our mobile app developer and ASP.NET web developer customers. While Silverlight itself is not a new technology, its use as a mobile application platform is new. We asked both groups whether they thought Silverlight would be a great development platform to build Windows Phone 7 mobile applications. We allowed three choices for this question: Agree, Disagree and Not Sure – and the results for those that agreed are displayed in Figure 5. We observe that 49% of the mobile app developers agreed with this statement, while only 29% of the ASP.NET web developers agreed with the statement. Mobile application developers are more enthusiastic about Silverlight as a mobile application platform.

It should also be noted that our survey was conducted in September 2010, before the PDC 2010 conference which was the timeframe when Microsoft discussed their shift in strategy with Silverlight and before the general availability of the Windows Phone 7 handsets. It would be interesting to see if there is any difference between attitudes toward Silverlight in a future survey.

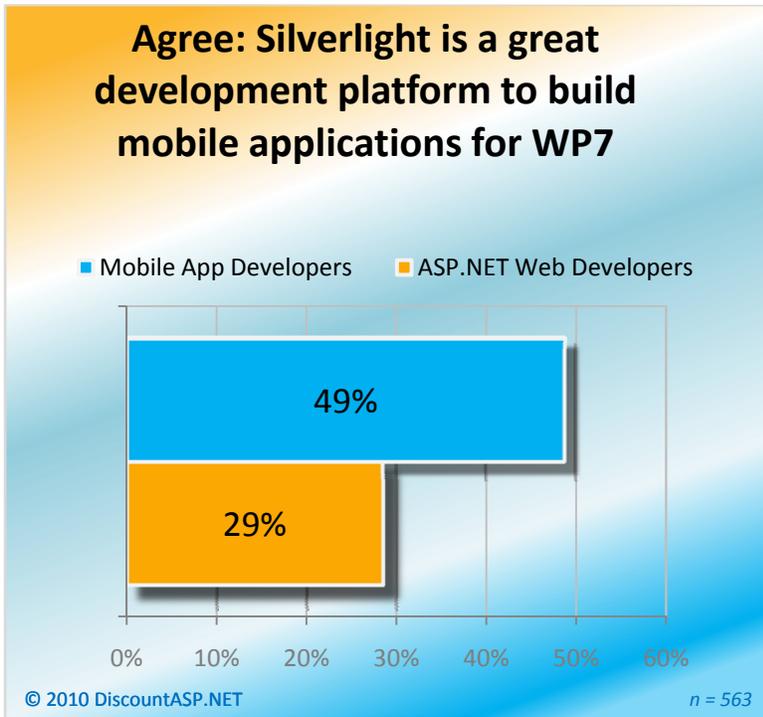


Figure 5 Customers who agree that Silverlight is a great development platform for mobile applications

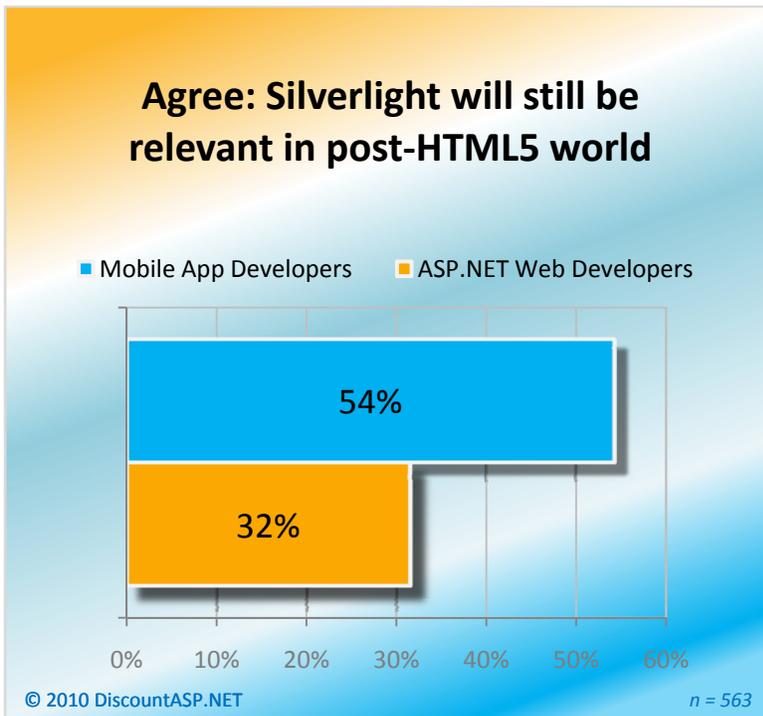


Figure 6 Customers who agree that Silverlight will remain relevant post-HTML 5

Relevancy of Silverlight

Since there is debate on the relevancy of RIA add-ons like Silverlight and Flash with the emergence of HTML 5 standards, we wanted to measure the differences in attitudes toward the relevancy of Silverlight. We asked both groups whether they thought Silverlight would still be relevant in a post-HTML 5 world. We allowed three choices for this question: Agree, Disagree and Not Sure – and the results for those that agreed are displayed in Figure 6. We observe that 54% of the mobile app developers agreed with this statement, while 32% of the ASP.NET web developers agreed with the statement.

The majority of mobile application developers remains confident with Silverlight and is not affected by the debates around the relevancy of Silverlight.

It should be noted that we are seeing some new data points on emerging standards like HTML 5 appear online. For example, in the Forrester-Dr. Dobb's Developer Technographics study reported in October 2010,²⁶ a survey of over 1000 Dr. Dobb's readers found that 8% were already using HTML 5 and related APIs, 38% were planning on adopting HTML 5 within a year and 14% was planning on adoption within 2 years. There were 31% that had no plans to use HTML 5. In an earlier report by SteamingMedia.com²⁷ in H1 2010, they found that less than 50% of their survey respondents were preparing to switch over to HTML 5 video tags in the near term and most will wait for a year or more. A third of the respondents cited the lack of fully compatible browsers as being an important factor in their decision. In fact, one of the popular arguments in support of Silverlight and Flash is around the ease of plug-in installation in existing browsers as compared to the longer timeframe of new browser adoption.

Finally, we should note that it was also recently reported that Microsoft is expected to push out some major updates to Windows Phone 7 in 2011 which is rumored to include the addition of HTML 5 support to WP7.²⁸ As HTML 5 standards become more ubiquitous on mobile devices, we will continue to monitor our customer's attitudes toward HTML 5 and Silverlight.

Internet Explorer 9 Adoption

We measured the differences in attitudes toward Internet Explorer 9 among these two groups. We asked both groups whether they would upgrade immediately to IE9 once it was officially launched. We allowed three choices for this question: Agree, Disagree and Not Sure – and the results for those that agreed are displayed in Figure 7. We observe mobile app developers have a very high interest in switching over to IE9 with 62% agreeing with the statement. We observe a 13% difference between the mobile app developer group and the ASP.NET web developer group showing that the mobile application developers are more enthusiastic over the advances that will come with IE9.

²⁶ <http://www.drdoobs.com/architecture-and-design/228000080>

²⁷ <http://www.streamingmedia.com/Articles/Editorial/Featured-Articles/iPad-and-HTML5-Support-Hype-or-Reality-67649.aspx>

²⁸ <http://www.zdnet.com/blog/microsoft/tipsters-windows-phone-7-mango-release-to-add-html-5-support/8214>

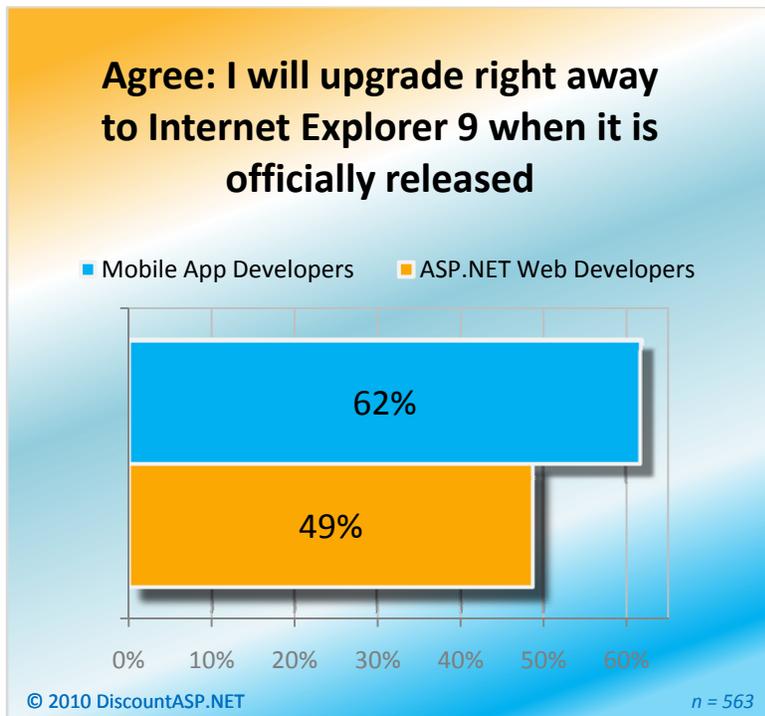


Figure 7 Customers who will upgrade to Internet Explorer 9 immediately

In the previous section, we observed an average of 32% for the high level of interest in IE9 among our customers, who signed up for web hosting between 2007 through 2010, and we observe here a 17% higher average of 49% of our USA based customers who will switch to IE9 immediately after availability. It would appear that while our mobile application developer group is generally more interested in IE9, there is still wide interest among ASP.NET web developers in the new browser.

Conclusions

Monitoring the attitudes and interests of developers is important as highlighted by the recent debate and events surrounding Microsoft Silverlight and emerging HTML 5 standards. In this article, based on a customer survey, we explore our customer's interests and attitudes toward new technologies. We use different comparisons and segmentation techniques to bring out underlying trends not observed through reporting simple averages.

- We observe a continual increase in Silverlight adoption among web sites hosted at DiscountASP.NET even during the 5 month period after the release of Silverlight 4.

- We observe a decline in use of Flash among our customer base during the 5 month period even after the release of Flash 11, which shows the effect that Apple's announcement of banning Flash on the iPhone is negatively affecting developer's decision in investing further in Flash development.
- With the announcement of Silverlight 5 and the release of Windows Phone 7, there is momentum for Silverlight technologies and its adoption.
- We observe that our younger hosting customers who are developing their web sites with newer technologies show a general higher interest in new upcoming core technologies for developing web applications like MVC 3, over our older customers who have built their web sites on older technology.
- We see a different trend with technologies that are used to consume web experiences like Internet Explorer 9, for which we observe steady high interest among all our customers no matter when they signed up for hosting. We also observe a high interest among our customer base in Internet Explorer 9, as about half indicated that they will switch immediately to IE9 when released.
- The mobile application developers among our customer base have more confidence in the use of Silverlight technology as a mobile platform and in the relevancy of Silverlight even with emerging HTML 5 standards.
- Our results here can be viewed as a baseline. As new HTML 5 and other standards evolve, we can continue to monitor our customer's interest in these technologies to observe how attitudes and adoption changes over time.

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Dr. Takeshi Eto is the Vice President of Marketing and Business Development and a founding member of DiscountASP.NET. Previously he was Director of Strategy and Research, Director of Corporate Development, and Director of Marketing and Product Management at Affinity Internet, a hosting company that operated multiple hosting brands and grew organically and through mergers and acquisitions. Eto came to Affinity Internet from the acquisition of Affinity Hosting, where he was Vice President of Marketing and launched one of the first budget Unix hosting brands, HostSave. Eto received his Ph.D. from University of California, Berkeley, California.

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About DiscountASP.NET

DiscountASP.NET is a Microsoft Gold Certified partner and an award-winning shared Windows web hosting provider with over 30,000 customers worldwide. Delivering on their mission to offer innovative hosting solutions for the .NET developer, DiscountASP.NET recently launched Team Foundation Server 2010 hosting as a SaaS solution for source control and bug tracking. For more information, visit <http://www.DiscountASP.NET>.

We hope that this article offers new research results that will be beneficial to the community. Please direct any questions or comments about this report to Takeshi Eto at takeshi@discountasp.net.