

# The 2014 Software Development Trends

Survey Results



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# Introduction

The 2014 Software Development Trends Survey was conducted from June 6 to August 1 with official results and analysis published on the [ExecutiveBrief website](#).

As with previous annual surveys, this survey is intended to inform senior business leaders and industry professionals of common and prevailing trends, along with key priorities reported among their peers throughout the spectrum of the software development industry.

Over 200 software industry business leaders and software development professionals participated in this survey, consisting of a detailed series of key questions, the majority of which were multiple choice with options for alternate responses.

Response percentages noted in this report are rounded to the nearest whole number.

## Key Findings and Takeaways

Hiring continues to be a priority with over half of all respondents indicating they plan to add permanent staff in the second half of 2014 and 2015.

Third-party business relationships continue to grow. Survey data shows a clear preference for single-source offshore and multi-source onshore outsourcing relationships, with prolonged support for a combination onshore-offshore partner strategy.

Interest in improving customer experience is noted throughout the report as a top priority and among the greatest area of needed improvement.

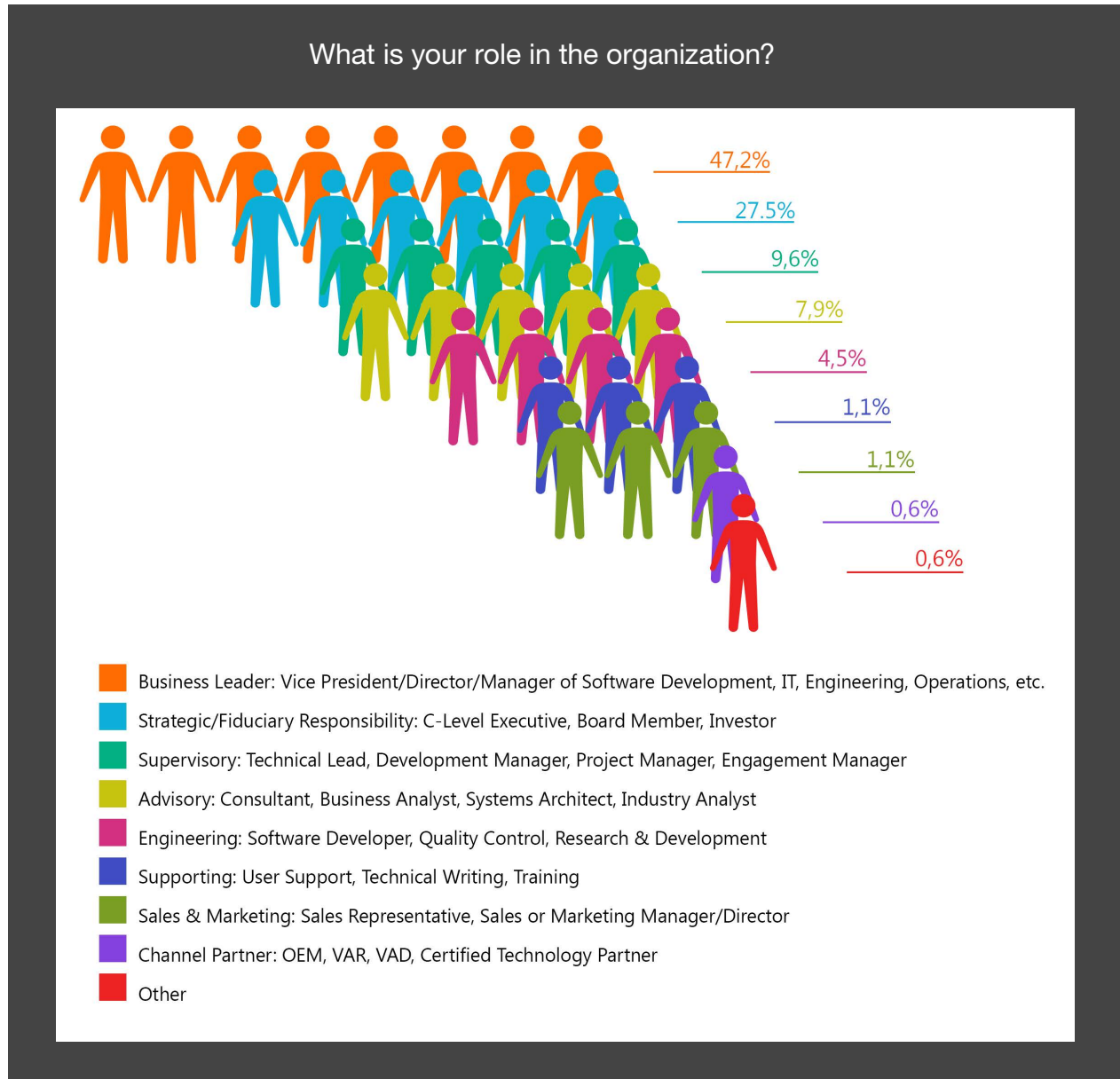
In mobile markets we're seeing more market activity and competition as a growing number of new entrants engage in developing and implementing mobile applications and early adopters release solutions into the marketplace and enter the support stage of development.

While a majority of respondents continue to report they are in a post-definition stage of their SaaS/Cloud developments, a growing number of respondents reported their current efforts are focused on defining their SaaS/Cloud strategy, signaling a number of new entrants and activity to refine and renew SaaS/Cloud strategies in preparation for the next generation of services.

Security remains a concern throughout software development. Most respondents indicate the interest and need for outside assistance to load test security solutions and validate security measures through independent audits.

# Respondent Profile

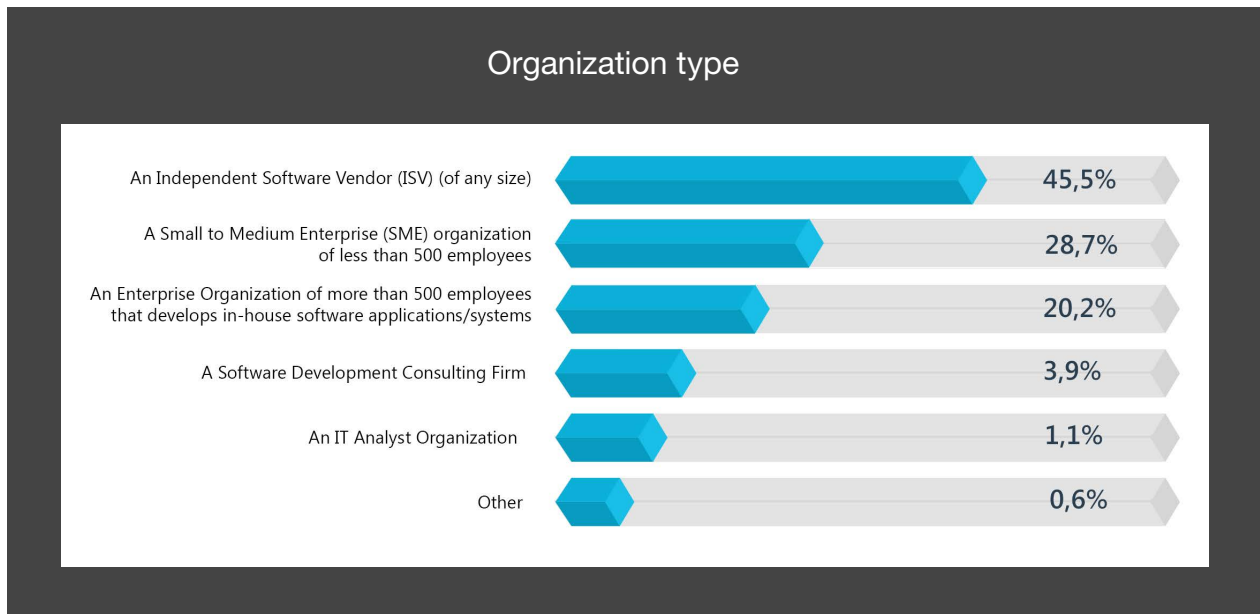
Before we present results from the 2014 survey, it's important to understand the profile of professionals who responded to the survey questions, so that we can better appreciate and analyze their response.



Seventy-five percent of all respondents identified themselves as being part of senior and executive management, with 28% of all respondents identifying themselves as having strategic and fiduciary responsibilities. This is consistent with previous year surveys and should be considered later in this report when presenting responses to business challenges and industry outlook.

Twelve percent of respondents identified themselves as being involved in technical aspects of software development – technical management, engineering, and related consultative services. This is down from last year’s survey of 21%, but consistent with previous respondent profiles where approximately 15% identify themselves as being involved in more of a hands-on role in software development.

As with previous annual surveys, 2014 respondents are predominately professionals directly involved in strategic business decisions regarding software development.



To present a rounded perspective of the survey results, it is important to understand the types of organizations the respondent business leaders and software professionals represent.

Continuing the trend noted in last year’s report, the largest group of 2014 survey respondents identified themselves as Independent Software Vendors (ISVs) whose core business is software development. This group represents 46% of all respondents – effectively the same as noted in last year’s survey.

Twenty-nine percent of respondents identified themselves as Small to Medium Enterprise organizations (SME) with less than 500 employees and 20% identified themselves as an SME with greater than 500 employees. This too is similar to previous year surveys.

Similar to surveys dating back to 2010, the smallest representative segment of responses came from third party organizations, such as analysts and consultants.



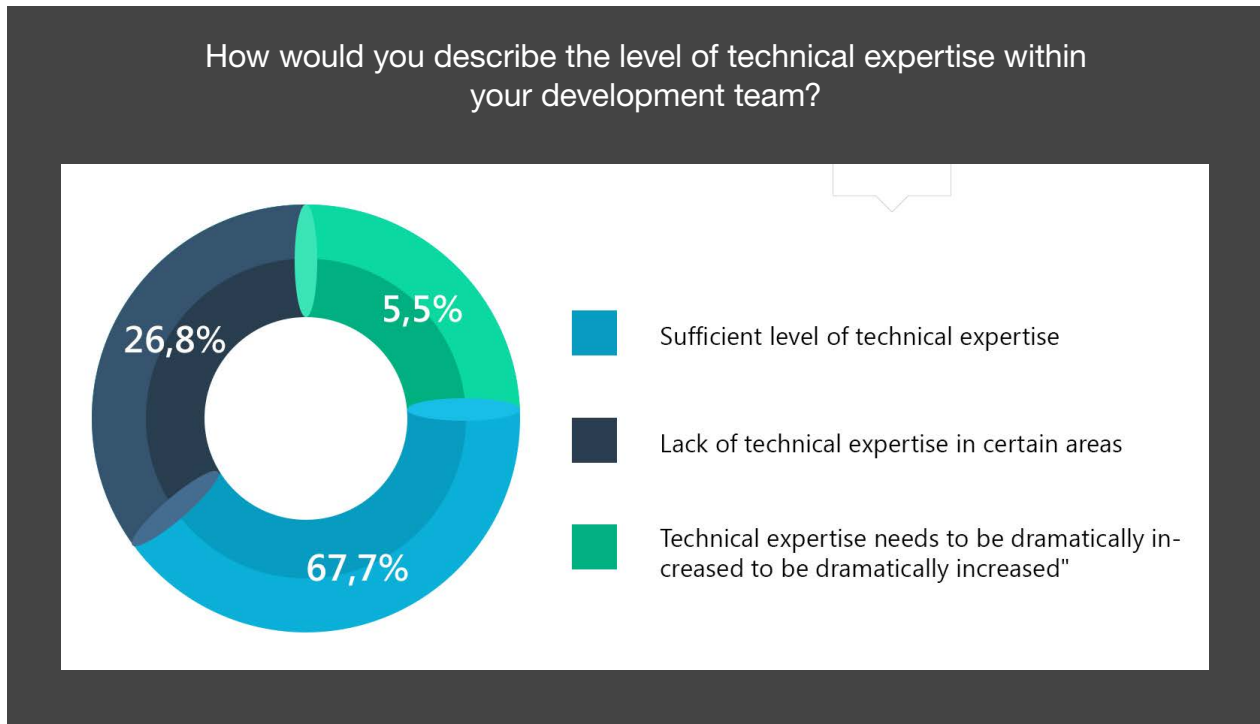
As the chart above indicates, there is no clear majority of markets or industries surveyed. While healthcare and life sciences were again selected by more respondents than any other available choice, respondents continue to serve a broad range of industries. Respondents were given the choice of selecting all markets they serve.

Similar to previous year surveys, approximately 22% categorize their business as serving all markets, possibly indicating interest in repurposing technology and porting applications from one market to another as hypothesized in annual reports dating back to 2011.

This data closely compares to previous year surveys, with two notable changes:

1. Public sector industries, government and education matched 2012 survey data of 23% — down from last year’s response of 42% — likely due to the large deployment of technology and government spending the previous year.

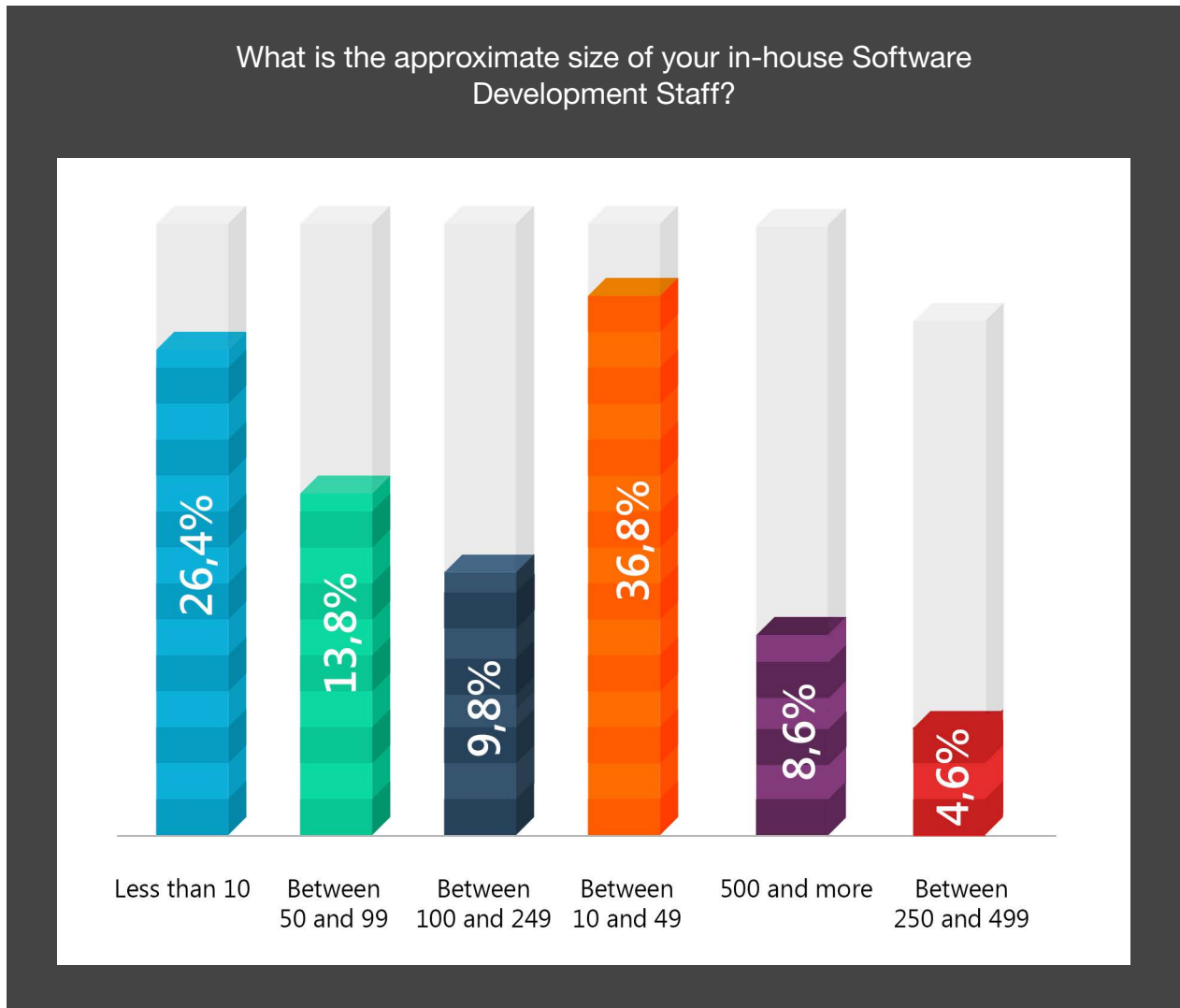
2. Retail and Consumer earned nearly twice the response as compared to last year — 17% in 2014, up from 10% in 2013. This may be a reflection of changing consumer behaviors brought on by the proliferation of smart devices and concern for increased security. This is a response to track in future surveys and may signal a trend in market focus and growing software development opportunities.



When asked to describe their development team’s level of technical expertise, 68% of respondents indicated they believe their team is skilled for the tasks at hand. Twenty-seven percent believe their team is lacking certain expertise and only 6% believe their team is seriously lacking necessary technical skills.

There is no previous year survey data to compare; however, this year’s response is insightful given the respondent profile of business leaders and executive management. Overall, development teams at respondent companies are respected for their technical expertise.





Respondents were asked to size their in-house development to give a sense of the size of their organization.

Sixty-three percent of respondents have fewer than 49 members of their development team in-house.

There is no previous year data to compare.

# The Software Development Environment

The survey asked a series of questions to understand the context of software development in 2014, from the perspective of priorities to most common and popular processes and the use of Business Analytics.



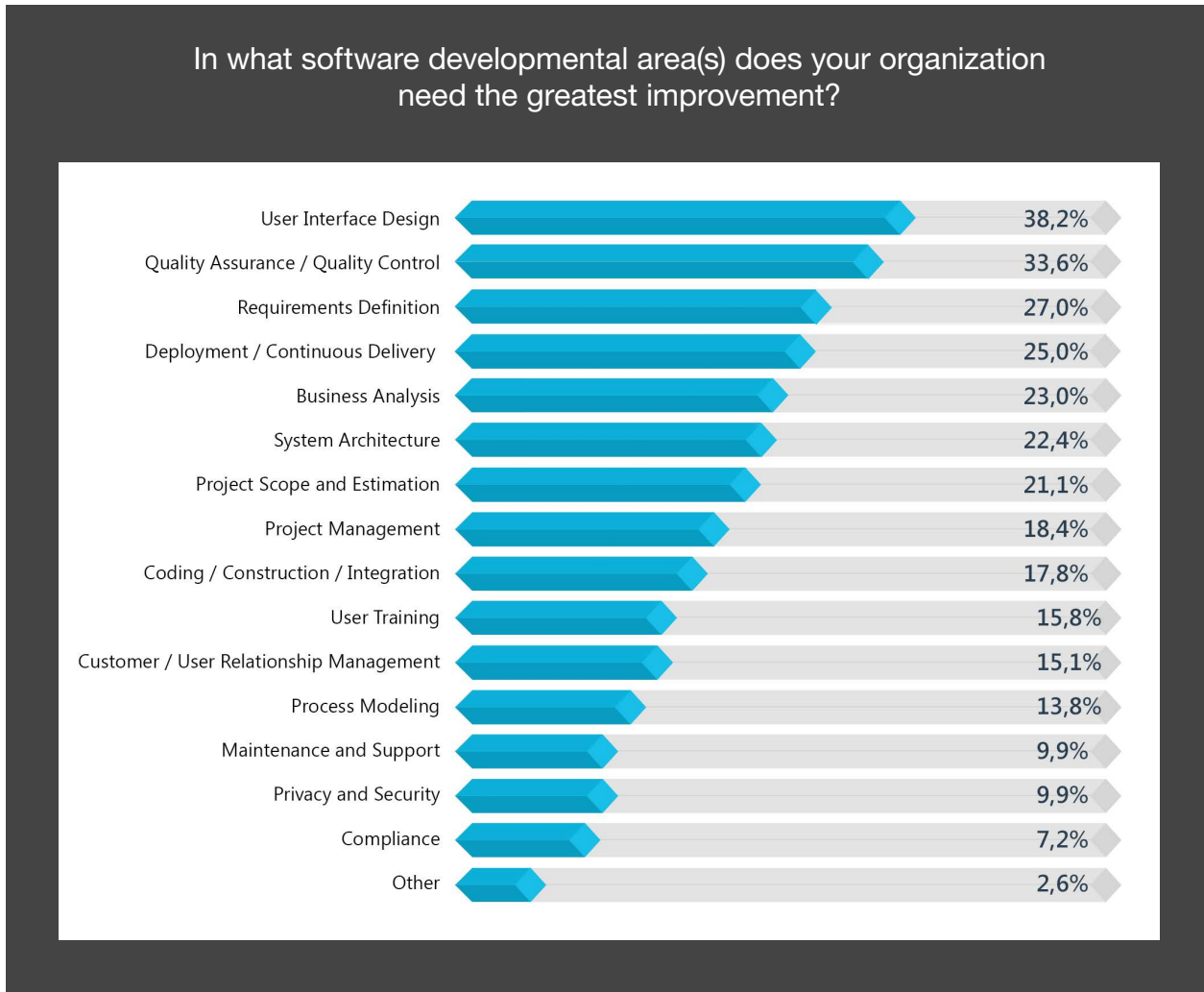
Seventy-seven percent of respondents cited new product and application development as their top priority. Looking ahead in this report, it's important to note the *User Interface Design* area of software development was identified as the area of software development requiring the most improvement. These two responses support each other, indicating the development of user-friendly applications is in great demand.

Supporting the conclusion above, usability and user experience remains a top priority with 60% response.

Big Data continues to rise as a priority within many organizations. Approximately 22% of respondents indicated Big Data was a top priority last year, increasing to 34.9% of respondents this year.

It's important to note that creating new technologies and products remained close to last year's

response (83% in 2013), remaining well below 89% response in 2012. Combining that level of response with the level of response for new applications, user experience, and integration and support, a trend is emerging that customer experience is the top software development priority.



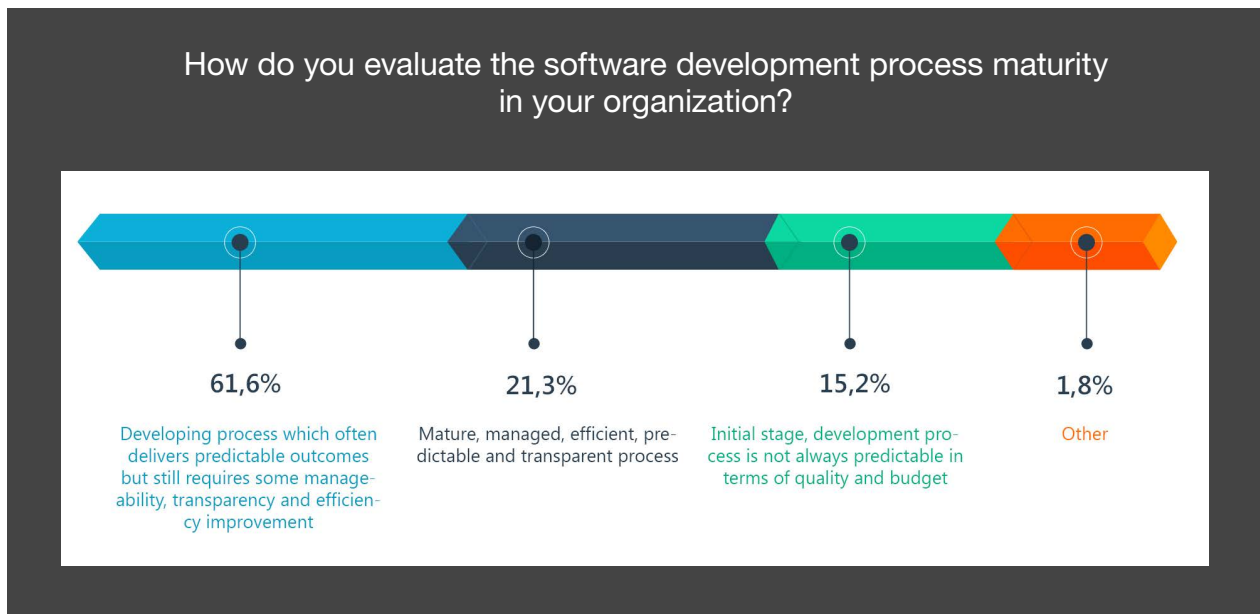
When asked which software development area a respondent’s organization most needed to improve, survey results were consistent dating back to 2010. Priorities remain improving quality and user experience. As noted in previous years’ reports, this is often a sign of a rapidly growing and competitive marketplace.

Similar to previous years’ surveys, need for improvement in maintenance and support, security, and compliance remained low.

As noted earlier in this report, a reasonable conclusion is there continues to be emphasis placed on customers and users of applications, supporting conclusions elsewhere in this report of a continued bullish outlook for software development and the growth of new marketing initiatives.

Customer experience is a clear area of importance in terms of development priority and needed improvement. This positions a software development environment of increasing consumer demand for new applications in a highly competitive marketplace.

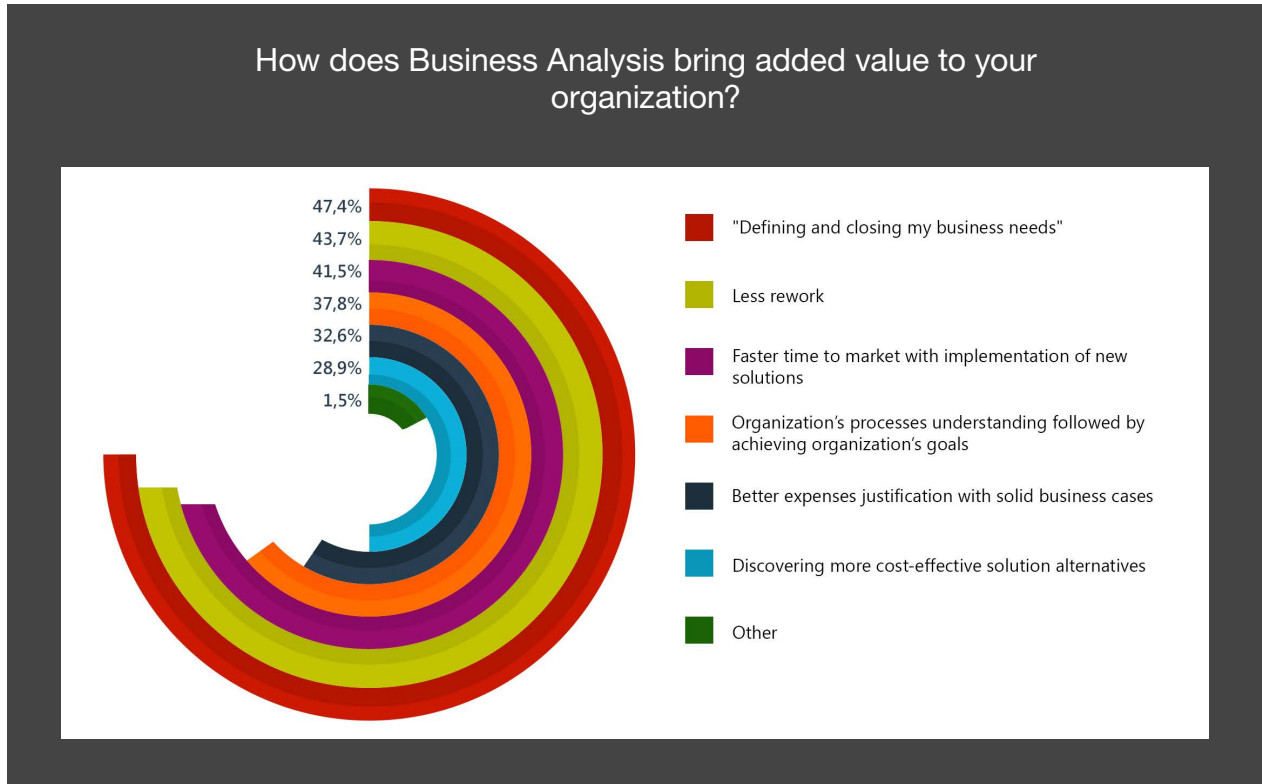
This remains an area to watch in future surveys.



When asked to evaluate the software development process maturity in their organization, 62% of respondents stated they believe their software development process delivers predictable outcomes, but they require greater manageability, transparency and efficiency. This indicates a level of satisfaction with the outcome, but a desire to have greater control and insight into processes.

Given the respondent profile of this survey, it's likely there's a desire for more business control over software development, allowing a greater level of management input and control of portfolio management, as well as the opportunity to implement cost saving measures without compromising quality and predictable outcomes.

Only 21% of respondents believe their software development processes are fully mature and 15% believe their processes are immature.



As seen in this this year’s survey, Business Analysis is streamlining planning processes, lessening workloads, and providing greater levels of cost justifications. The result is organizations are able to move faster in given markets, contain costs, and identify viable alternatives.

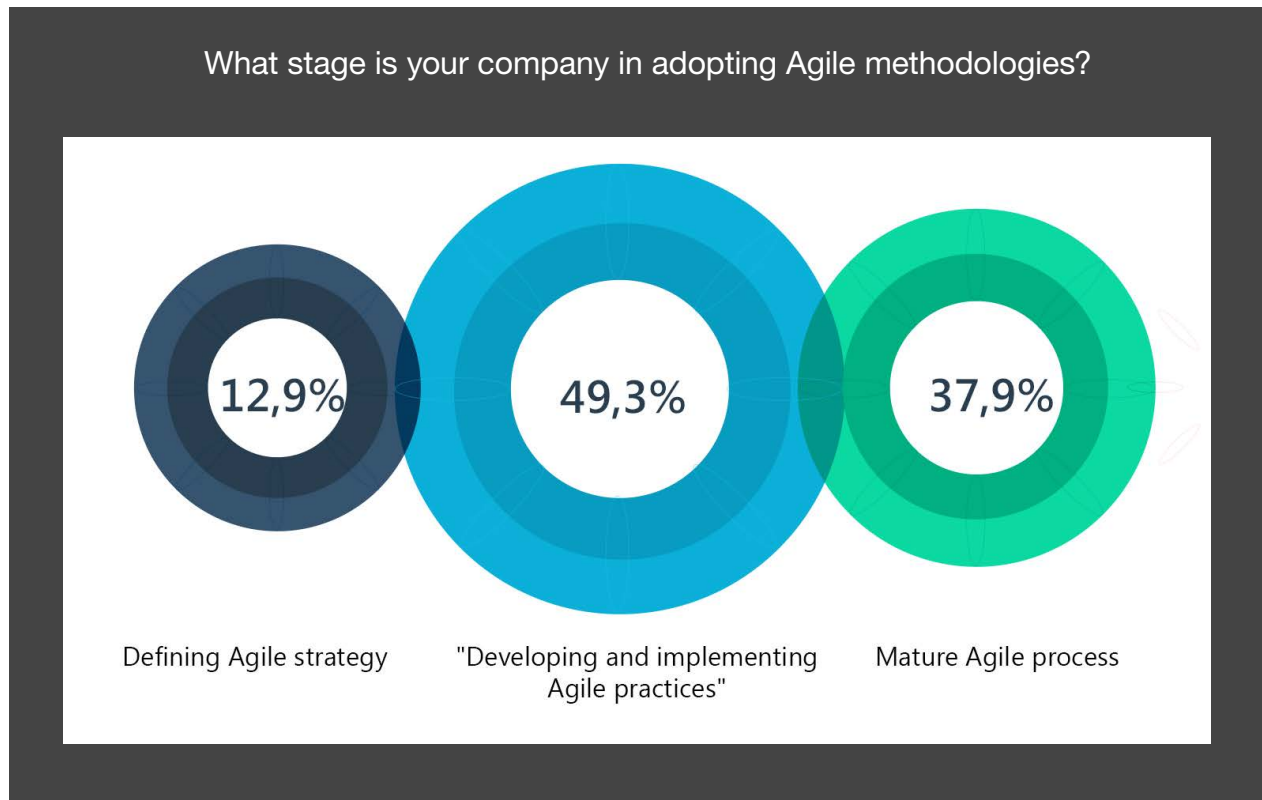
There isn’t previous year’s survey data to compare, but it’s clear Business Analysis is having a positive impact on software development processes and it’s an important area to watch in future surveys. This is an area where business and technology intersect, creating first-in-market opportunities and implementation of efficiencies capable of improving market response and corporate profitability.



As noted earlier in this report, Business Analysis is having a positive impact on software development, but it's not without its challenges. Fifty percent of respondents indicated a lack of clarity in the scope of a solution is the greatest challenge in their use of Business Analysis.

Since respondents were allowed to choose more than one response to the survey question, further responses to this question are telling in what may be the cause behind the lack of scope cited as the greatest challenge: lack of common understanding, no tracking of high-level business requirements, and no validation in meeting business objectives were among the top challenges.

There isn't any previous years' survey data to compare, but this question is particularly worthy of watching in future reports. Response to this question points to areas of software development where Business Analysis may have its greatest impact.



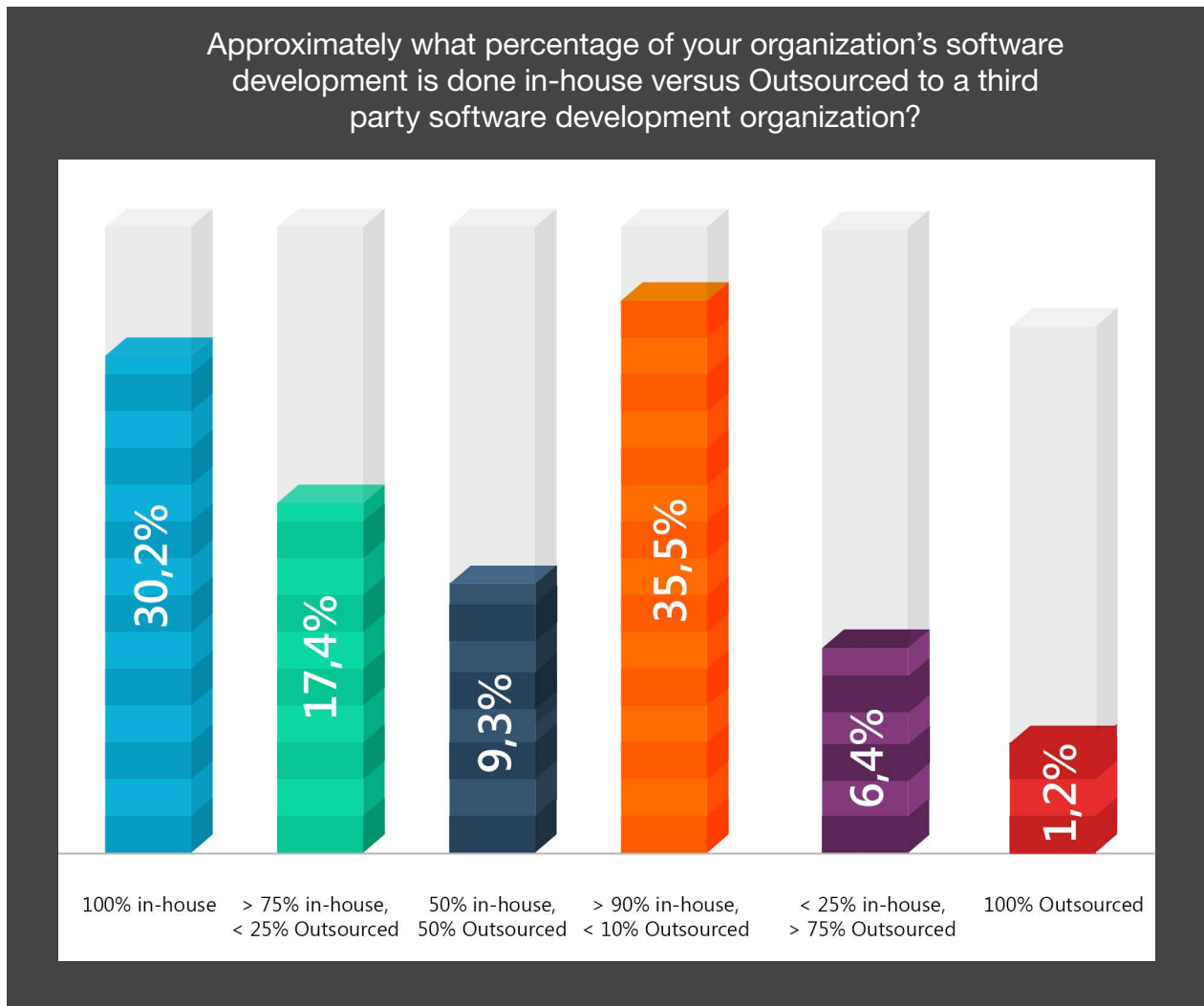
In previous years' surveys we used to ask respondents to identify their preferred software development methodology/model. Year after year, Agile continued its dominance as the preferred model to the point where all other responses became irrelevant in terms of providing benefits within a trends report. As such, we no longer are surveying that question. Beginning with this year's survey, we're taking a look within Agile's support to report on its use.

Forty-nine percent of respondents identified their stage of Agile use as developing and implementing practices, while 38% cite they already have mature processes in place. Thirteen percent shared they are defining an Agile strategy.

As mentioned earlier, there is no previous years' survey data to compare, but with well over half of the respondents indicating their Agile implementations are less than mature, this may signal an opportunity for consulting, coaching, and associated services.

# Third Party Interaction and Resources

Respondents were surveyed on how much of their software development is performed in-house versus external personnel and resources, ranging from consulting services to formal outsourcing.



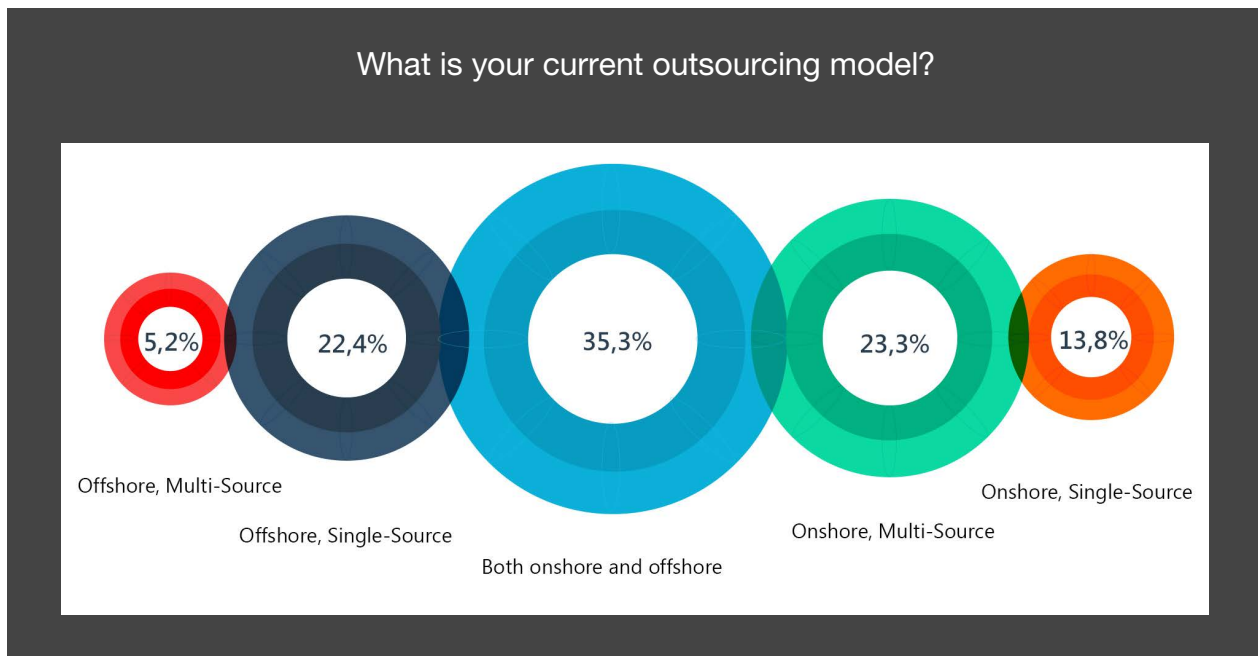
Responding to the question of the use of outsourcing, only 30% responded they handle all of their software development in-house. This is notably less than 38% who responded the same in 2013 and significantly less than 47% of respondents who responded in 2012, continuing a trend reversal noted in 2011. This means today 70% of all organizations engage in outsourcing at one level or another, up from approximately 50% in 2012.

For years now we've recommended watching this area of the survey as the economy improves and organizations continue to forecast growth. Our 2012 and 2013 analysis was correct in forecasting



an increase in outsourcing as businesses seek ways to move faster and more cost effective in given markets. We expect this trend to continue.

We expect to see more interest and participation in outsourcing as part of a strategic business model - assuming the global economy continues to improve, business forecasts remain bullish, and interest in reducing costs continues to be valued as applications and technology cycles mature.

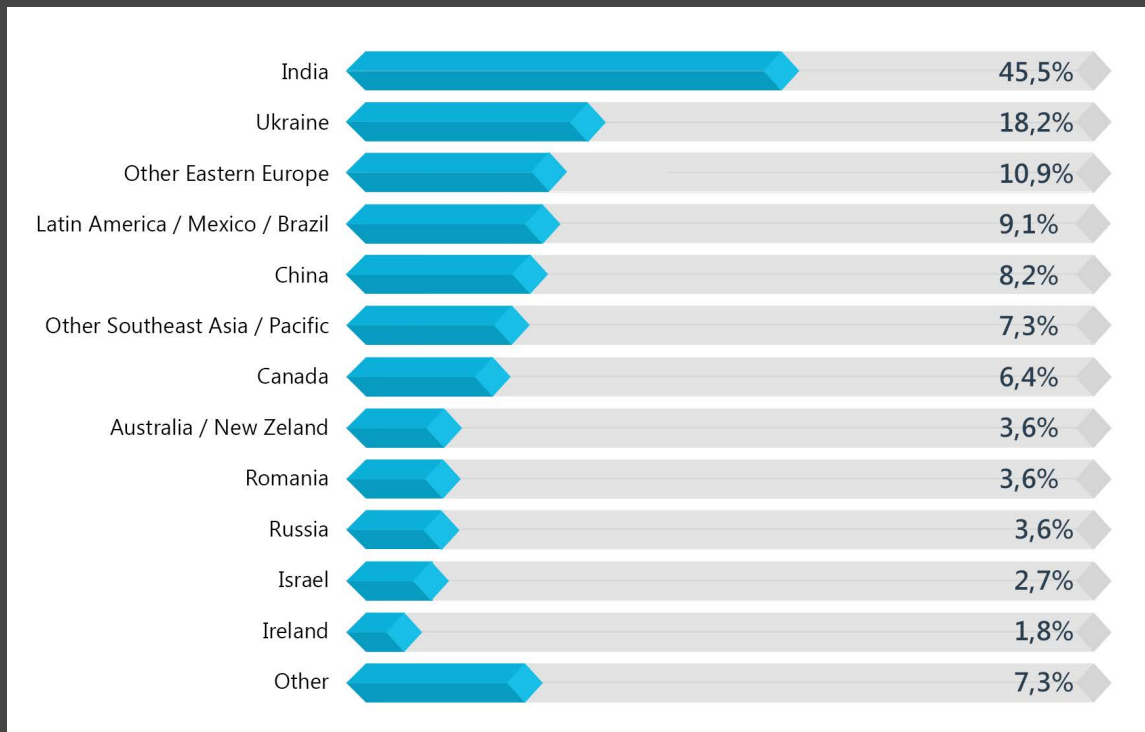


Respondents who answered positively to outsourcing were further asked about their outsourcing model - whether their third-party partners were onshore or offshore, whether they used one vendor or multiple vendors, or any of the combinations thereof.

Results from this year's survey continue a fairly balanced approach to outsourcing, similar to data collected in the 2010 and 2011 surveys in terms of the support for onshore and offshore partnerships: 35% percent of respondents indicate they exercise onshore and offshore partnerships, 28% support offshore outsourcing, and 37% support onshore outsourcing.

While this year's survey results are overall similar to last year, in terms of balancing onshore and offshore partnerships, there are noteworthy differences in how those partnerships are being exercised. Support for onshore multi-source is growing (13% in 2013 to 23% in 2014), while onshore single-source is losing favor (21% in 2013 to 14% in 2014). The opposite is occurring offshore, where multi-source is in decline (12% in 2013 to 5% in 2014) while single-source is gaining support (18% in 2013 to 22% in 2014).

If you use Outsourced and Offshore software development services, where are their development centers located?

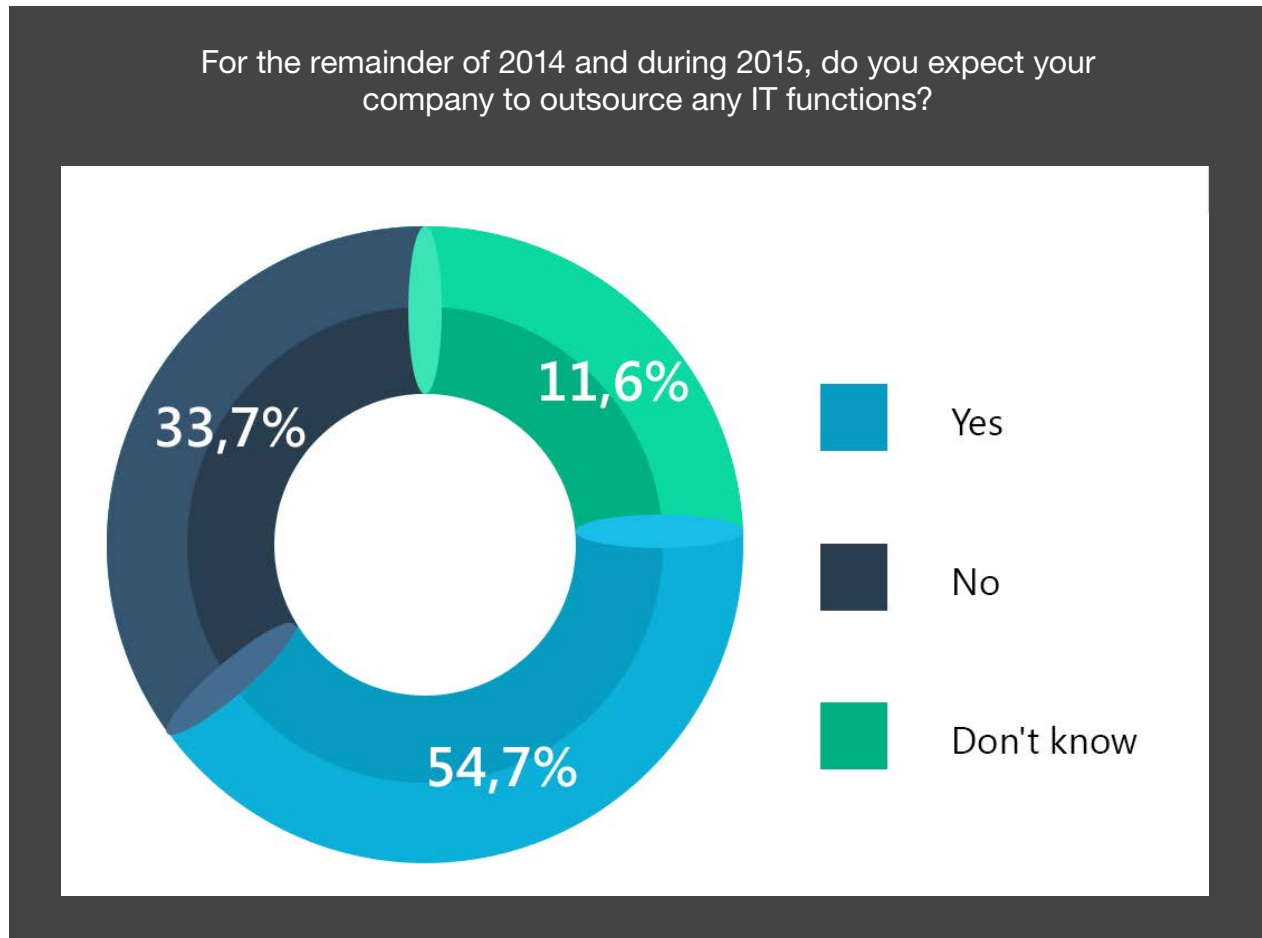


Continuing with those organizations that utilize offshore outsourcing vendors, India remains the top destination by a wide, but narrowing margin, with 46% of respondents who offshore doing so with India partners. This is a significant falloff in support dating back to the 2010 survey where India was chosen by approximately 75% of respondents.

As in previous survey reports, Ukraine and Eastern Europe remain strongly supported as offshore partners and are gaining on India as the favored destination – 20% in 2013 and 29% in 2014. It’s worth to note Russia lost support in the 2014 survey, down from 11% in 2013 to 4% in 2014.

Mexico, Brazil and Latin America continue a downward trend in their support, from a peak of 17% in 2011 to 9% in 2014.

Southeast Asia and China offshoring gained a little support, from 13% in 2013 to 16% in 2014.

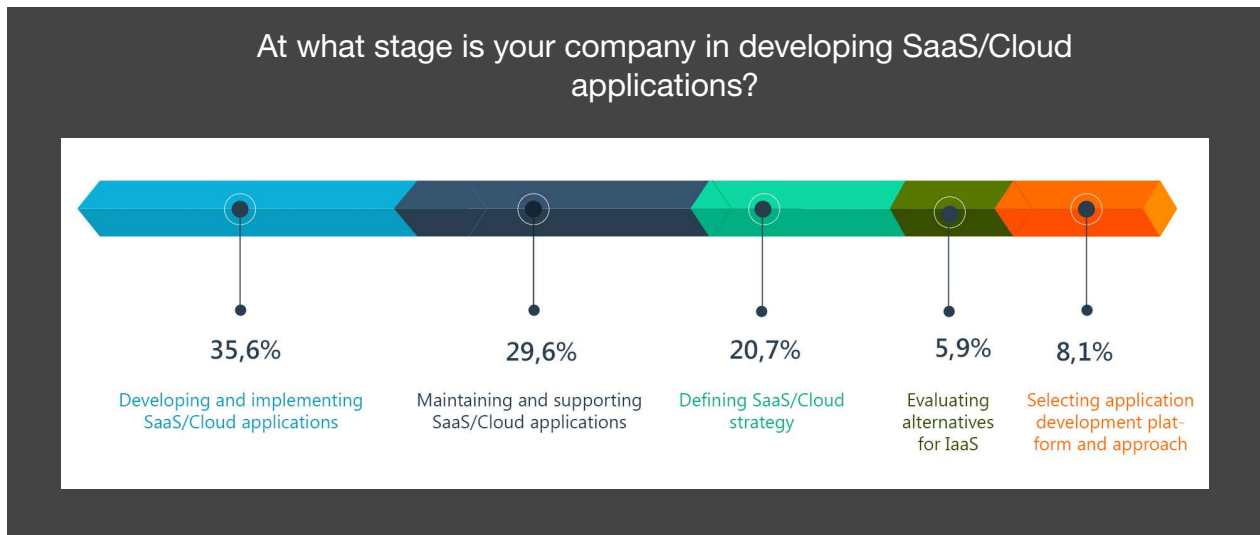


Last, we asked respondents about their intentions to outsource any IT functions in the remainder of 2014 and 2015. Fifty-five percent responded they plan to outsource some functions, while 33% shared they had no outsourcing plans. This is consistent with related survey data, where 35% stated they handled software development solely in-house.

There is no previous years` survey data to compare.

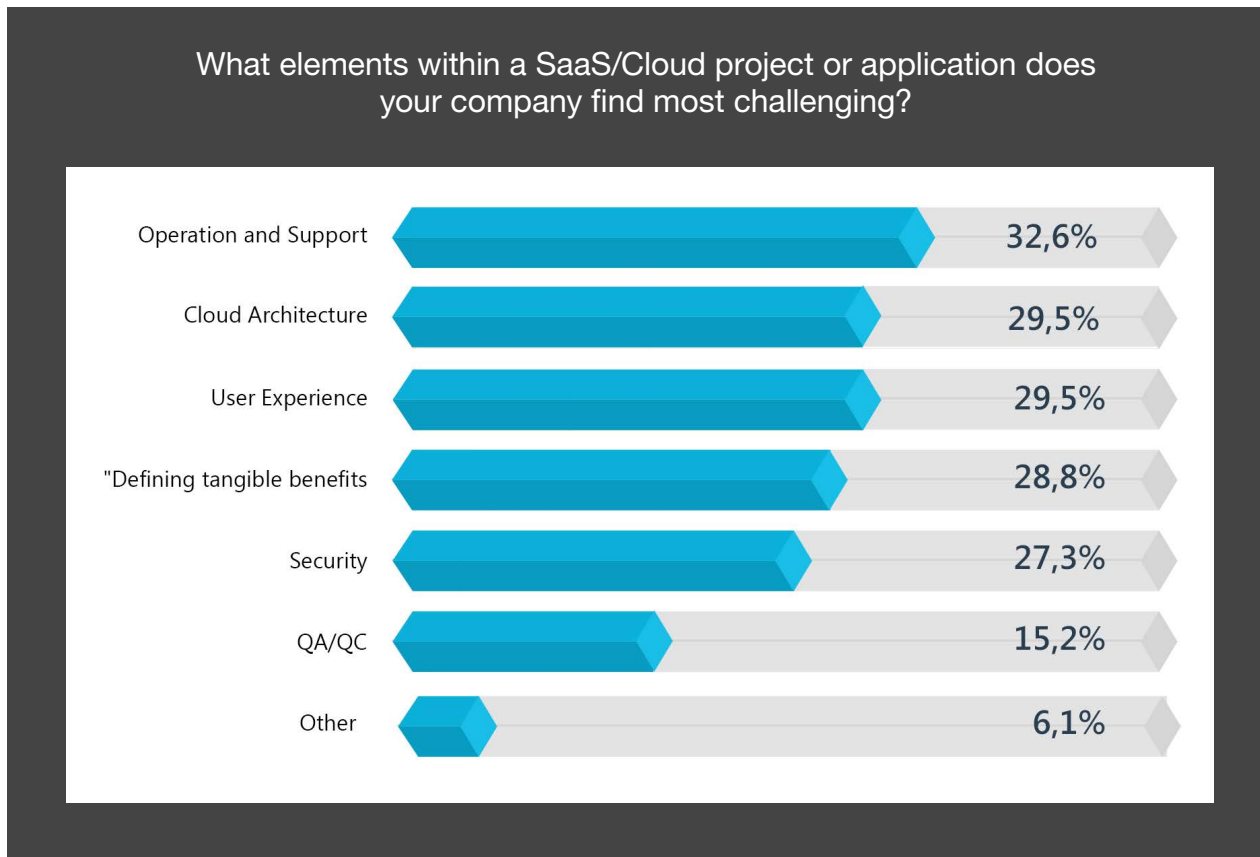
# SaaS/Cloud Applications

With growing consumer interest in SaaS/Cloud applications, we asked respondents a number of questions regarding their current SaaS/Cloud activities.



Reinforcing a trend noted in the 2012 report, a majority of respondents continue to report they are in a post-definition stage of their SaaS/Cloud developments, indicating a level of maturity in SaaS/Cloud applications comparable to data from the 2011 report.

Twenty-one percent of 2014 respondents reported their current efforts are focused on defining their SaaS/Cloud strategy. This is a slight, but notable increase as compared to 2012 and 2013 survey data and may be signaling activity to refine and renew SaaS/Cloud strategies in preparation for the next generation of services.



We've noted in previous years' reports an area to watch is the move from SaaS/Cloud strategy to implementation and associated support. Last year, an emerging trend was reported as survey responses indicated the SaaS/Cloud market is maturing. This trend is reinforced in this year's survey.

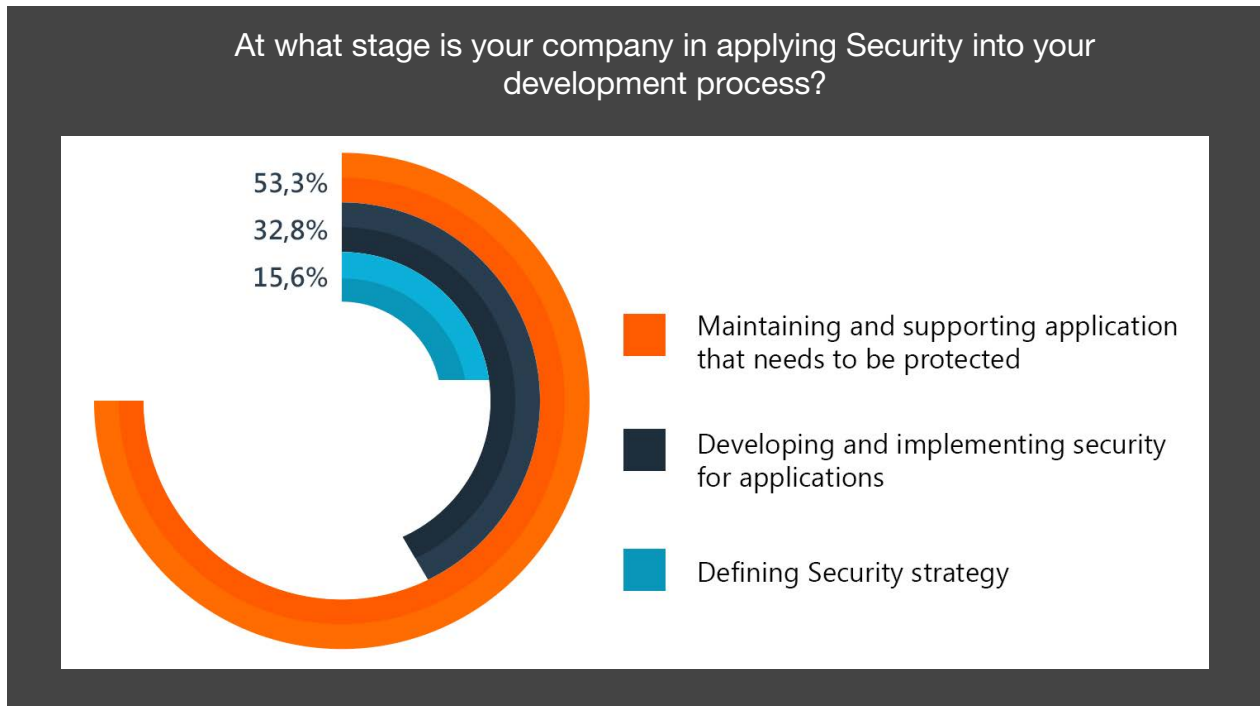
Last year we saw *User Experience* rise to the top response, along with an increased interest in QA/QC. Comparing previous years' survey data, it appeared challenges are shifting to supporting users and their experience as opposed to developing new applications and services. This year's survey reinforces that notion with *Operation and Support* jumping to the top response (28% in 2013 to 33% in 2014) and *Cloud Architecture* rising from 24% response in 2013 to 30% in 2014. This indicates a focus on client support and quality of service is among the greater challenges – responding to the proliferation of smart devices and wide-spread acceptance of cloud-based services.

Security lowered in response from 33% in 2012 and 2013 to 27% in 2014. This may reflect recent strides taken to improve security and customer experience in recent years.

Overall, responses remain fairly balanced with a continued shift toward user experience and quality.

# Security

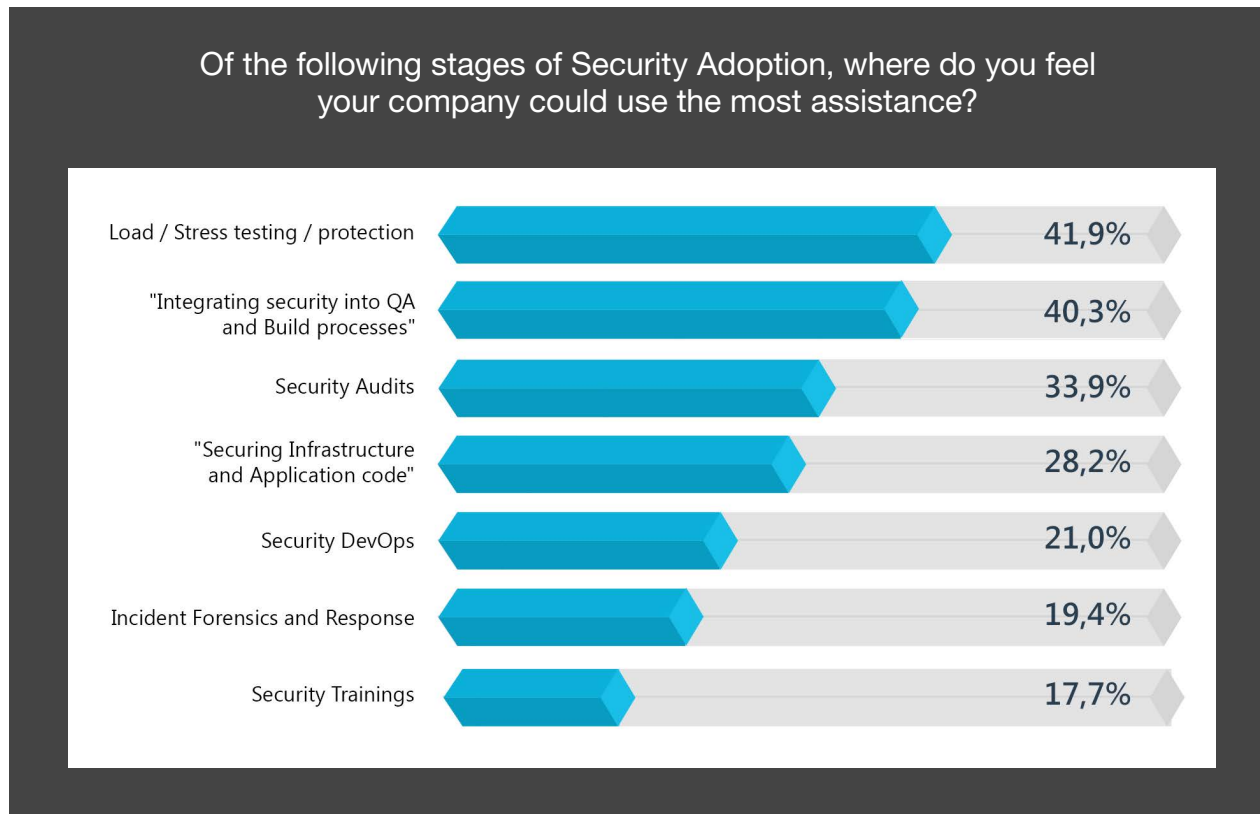
While there have been many advances in network, application, and service security, security threats and breaches remain a top concern. Enterprises and service providers of all kinds face real threats from those seeking to do harm for spite, profit, social justice or sport.



Respondents were asked to identify the stage of development process their company is currently applying security measures into. Not surprisingly, the top response was security measures are being applied to existing applications. This supports other responses within this report where customer experience is a top priority, as well as acknowledges the level of security threats that exist today.

Developing and implementing security for applications was the second most identified area of development cited, with defining security strategies earning a distant response of only 16% of respondents. This indicates immediate security measures are widely known and efforts are focused on implementing those measures to thwart pending threats.

There is no previous years` data to compare.

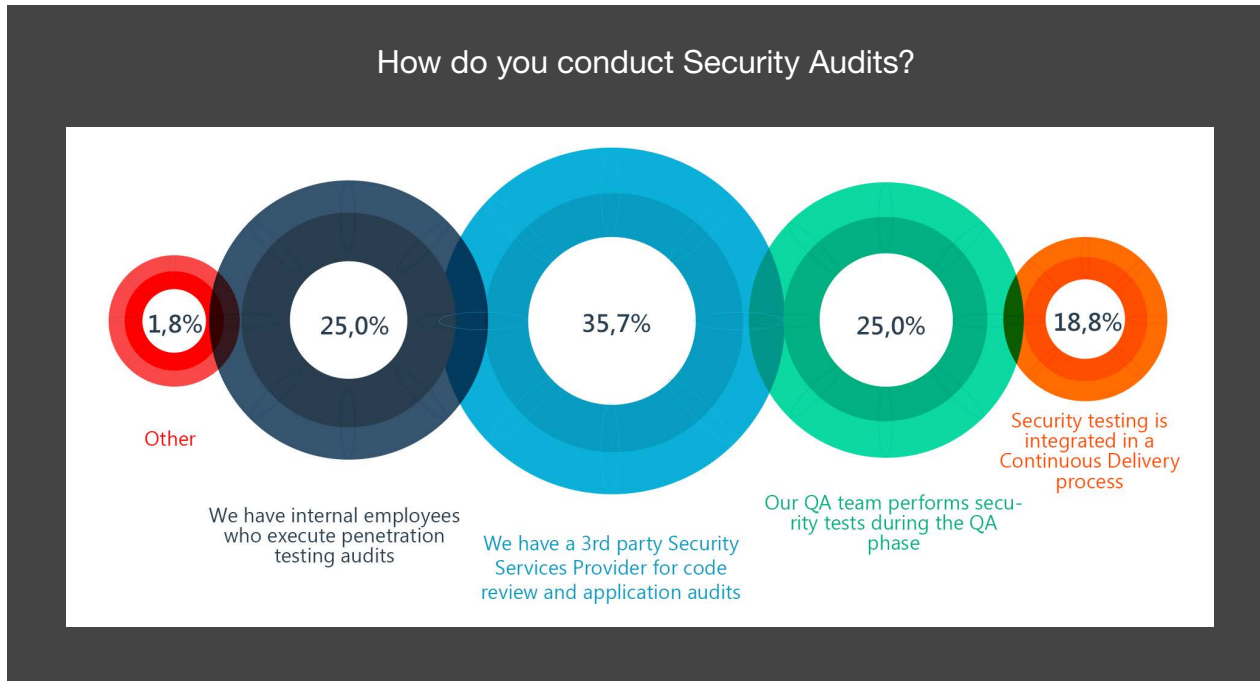


Looking further into the concern for security, respondents were asked to identify the area of security adoption they believed they could most benefit from outside assistance. Overall response was fairly balanced.

Forty-two percent of respondents indicated they need assistance load testing security solutions. This is likely a scaling issue in terms of ability to stress test solutions, as well as the desire for a third party to validate security measures.

Forty percent of respondents also indicated the desire for assistance integrating security into QA and Build processes. This is likely a recognition that outside expert opinion and expertise can be leveraged to ensure security. This notion is supported by the third greatest response - the need for assistance performing security audits.

There is no previous survey data to compare, but this is surely an area many will watch as more applications move to SaaS/Cloud and mobile environments.



Our last look into security in this year’s survey was asking respondents to share how they conduct security audits. This question is insightful as audits are a preemptive tactic to test and ensure security measures are positioned and capable of protecting networks, applications and end-user privacy.

Thirty-six percent of respondents indicated they leverage third-party to review code and perform audits. This is consistent with the most identified areas of desired security assistance presented earlier in this report.

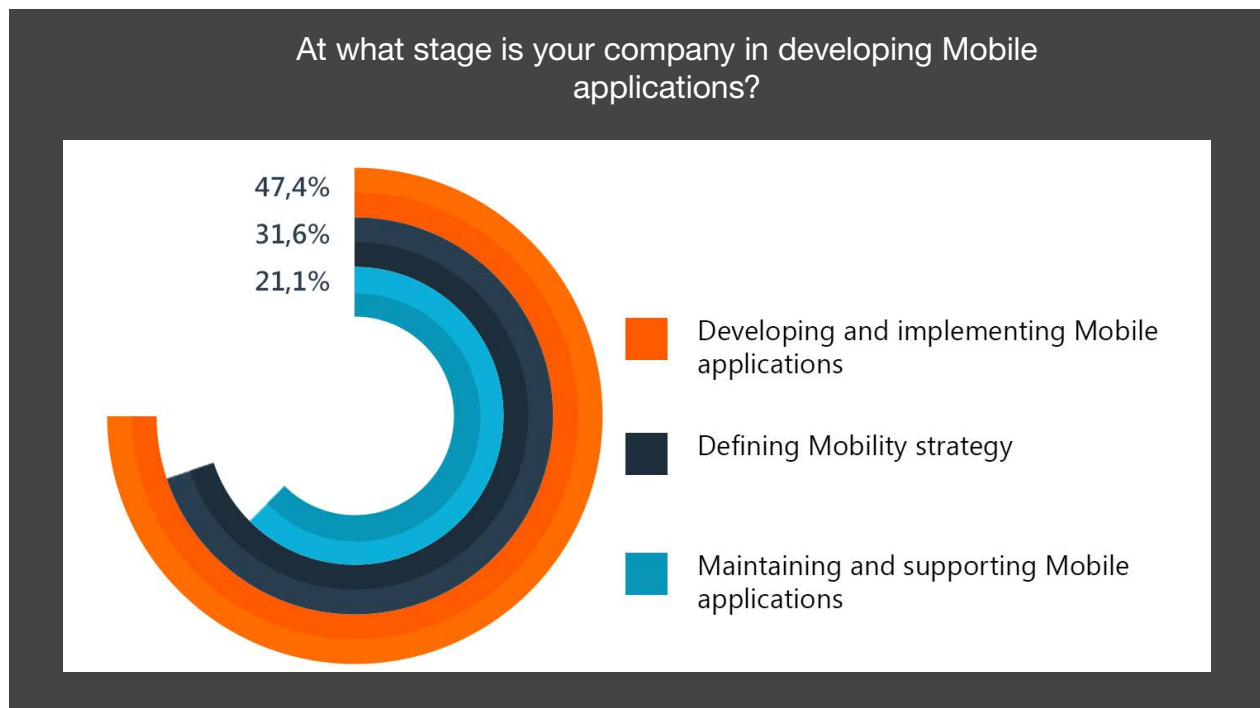
This is an area to watch in future surveys as to the extent internal auditing grows in importance or third-party expertise remains the favored approach to ensuring security.

There is no previous years’ survey data to compare.



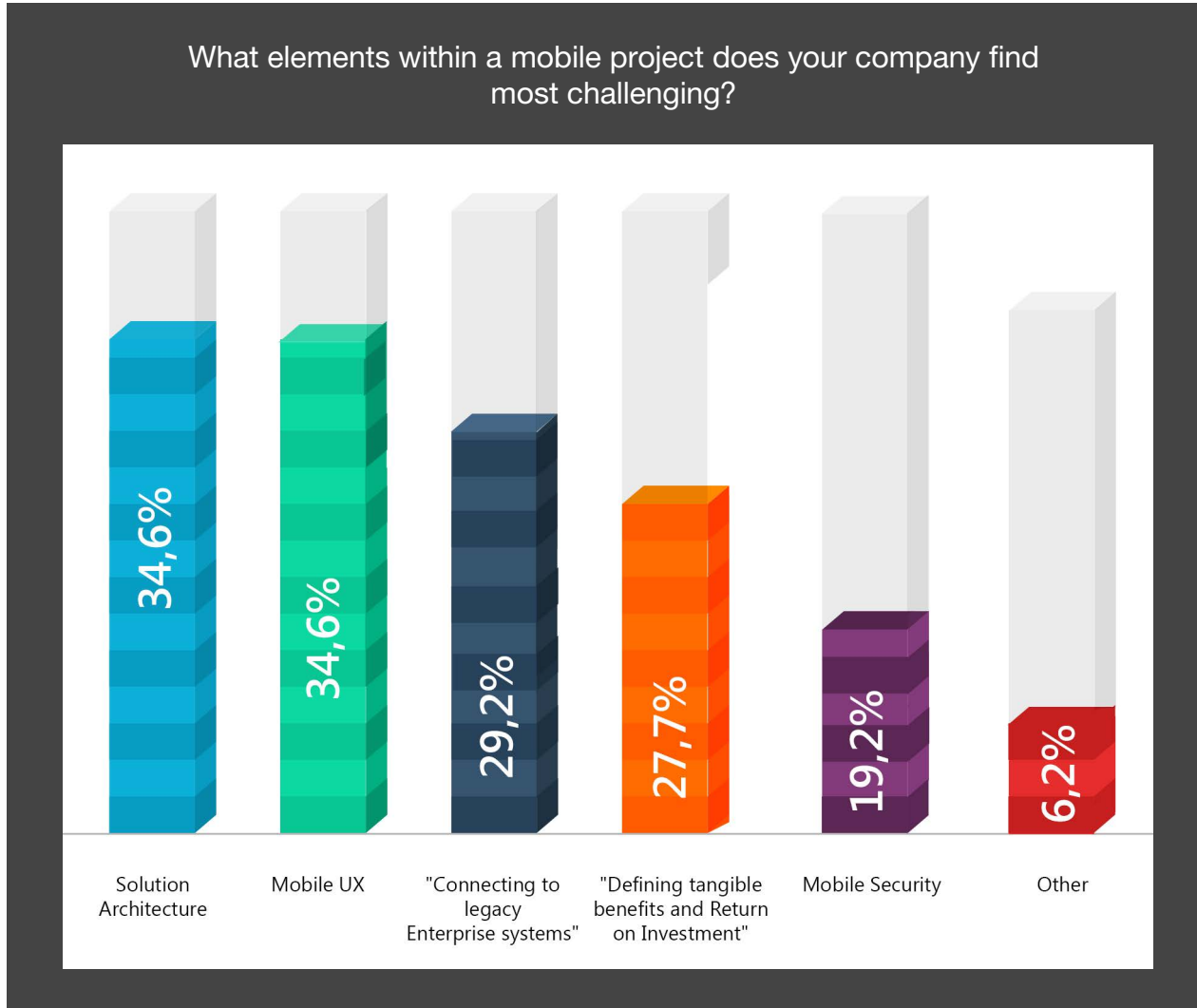
# Mobile Applications

As with increasing consumer interest in SaaS/Cloud applications, we asked respondents a number of questions regarding their mobility plans and activities.



Last year we noted a shift from the near balance between the three major stages of mobile application development reported in 2012. This year is identical in response to last year, indicating less effort in defining mobility strategies and more companies engaged in developing and implementing mobile applications. This shift is closely aligned with previous years' survey data which also reported an identical percentage of respondents engaged in the development and implementation stage of mobile applications.

We hypothesized in previous reports that survey data may indicate a growing number of new entrants, hence the stable number of respondents in the strategy stage, while early adopters are releasing solutions into the marketplace and entering the support stage. This is something we need to continue watching in future surveys to validate.



When asked which elements within a mobile project the respondent's company find most challenging, the priority and relative relationship of response did not significantly change between the 2011, 2012, and 2013 surveys.

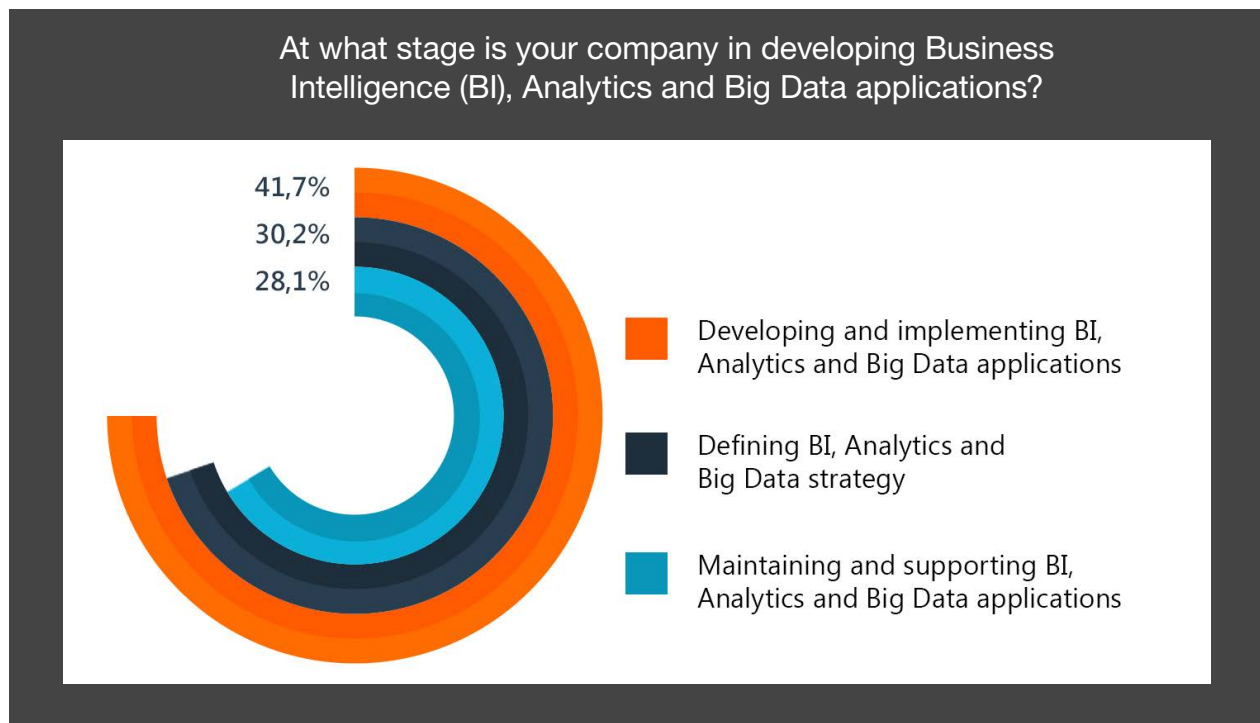
This year's survey moves in a different direction.

Looking at previous years' surveys, defining tangible benefits and return on investment were noted as a growing concern, following more market activity and competition. In this year's survey, we see Mobile UX rise as an identified challenge (23% in 2013 to 35% in 2014) while defining tangible benefits and return on investment fall (37% in 2013 to 28% in 2014). All other responses remain greatly unchanged since 2011.

These changes support trends noted elsewhere in this report of focus shifting to customer experience.

# Business Intelligence and Analytics

The 2014 survey queried respondents regarding their company’s current activity in Business Intelligence, Analytics, and Big Data applications.

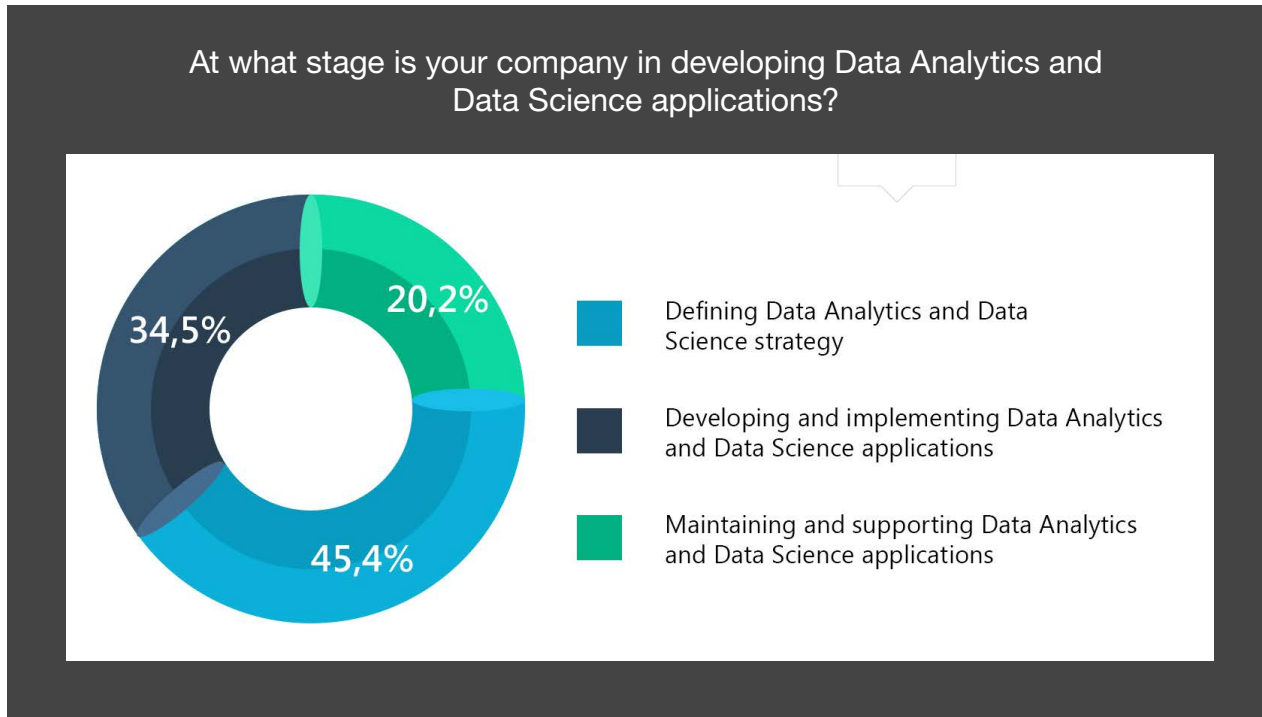


When asked at what stage their company is in regarding the development of business intelligence (BI), analytics, and Big Data applications, 34% of respondents reported their company is defining their data analytics and data science strategy. This is an increase from last year’s response of 30%.

Thirty nine percent of 2014 respondents indicated they were currently developing their BI, analytics and Big Data applications, while 42% reported the same last year. And twenty-seven percent of respondents shared their company was maintaining and supporting BI, analytics, and Big Data applications – almost the same as reported in last year’s survey (28% in 2013).

With the results indicating decrease in developing and implementing applications followed by growth in defining strategies, what may be at play in the survey is a growing number of new entrants in BI, analytics, and Big Data. If this explanation holds true, we should see future increases in maintaining and supporting such applications.

This is another item to watch in future surveys.



Continuing the same line of question, we asked respondents to share their company’s current stage in developing data analytics and data science applications – defining, developing or maintaining.

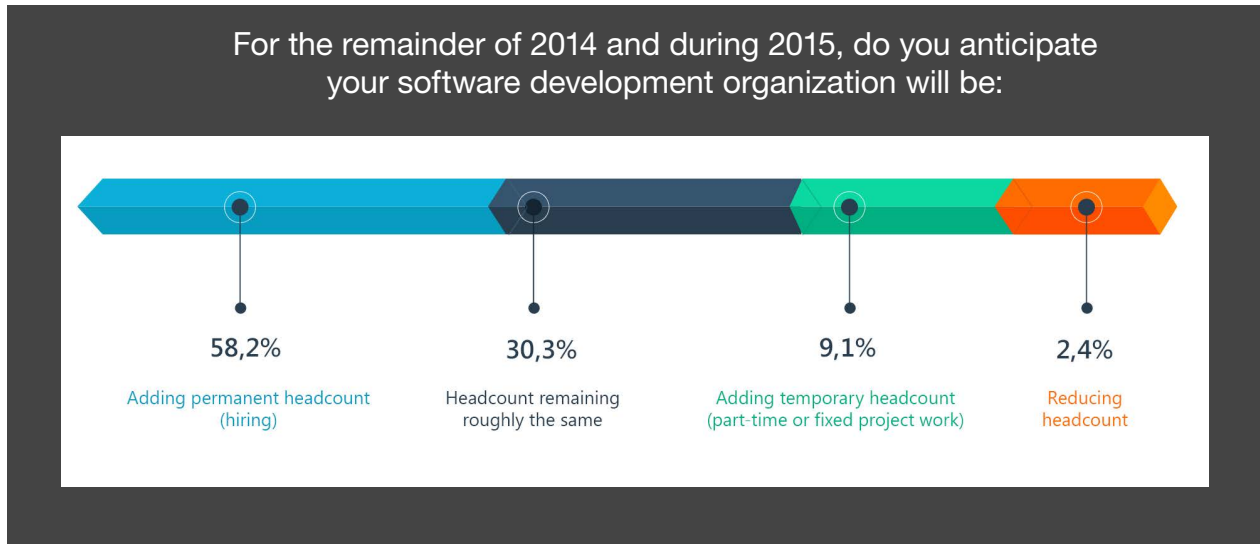
Respondents indicate most companies are currently defining their strategy (46%) while 35% are implementing and 20% are maintaining applications.

Comparing response to this question with the previous question on the current stage of business intelligence, analytics, and Big Data, it’s possible we’re seeing companies investing more in data science given previous advances in Big Data and business intelligence. This makes sense as amassing volumes of data and developing intelligent applications fuels the need and opportunity for greater advances in data science and advanced analytics.

There is no previous year data to compare, but, it is an area of software development to watch in future surveys.

# Future Business Outlook

The last part of our survey asked respondents about the outlook on their business in terms of staffing.



The bullish outlook on hiring noted since 2010 continues in 2014 with 58% of respondents indicating they plan to add permanent staff in the second half of 2014 and 2015.

Only 2% of respondents believe they will reduce headcount in the coming months and year, unchanged from previous reports. Similarly, part-time and project hiring tracks previous survey results.

This is the fourth year in a row we have been able to report the expectation of a favorable business outlook.

# ExecutiveBrief

Technology Management Resource for Business Leaders

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