RED HAT MOBILE MATURITY SURVEY, 2015

IT decision maker survey conducted by Vanson Bourne
October 2015
INTRODUCTION

The mobile revolution has changed how we engage and interact with information and people, both as consumers and as employees. The introduction of the iPhone in 2007 led to the so-called “consumerization of IT.” Now we’re on the brink of digital transformation and the role that mobile plays will help shape the future of digital business.

Despite the buzz in enterprise mobility, the market still has some growing up to do in order to fully take advantage of the potential opportunities to increase operational efficiencies and grow revenue streams. Following a survey that Vanson Bourne conducted on behalf of FeedHenry (now Red Hat® Mobile) in 2013, we now look to uncover how mobile maturity is trending. We're also interested in what strategies, technologies, approaches, and measurements are being put in place to achieve mobile maturity and success.

This survey was conducted by Vanson Bourne in October 2015, polling 200 IT decision makers from private sector organizations with more than 2,500 employees. Half the respondents were from the United States. The other half came, equally, from the UK, Germany, and France.
MOBILE APP STRATEGY
AND OBJECTIVES
IMPLEMENTATION OF MOBILE APP STRATEGIES HAS TAKEN OFF

Mobile continues to be a hot topic with enterprises as they recognize the importance of mobile as part of their overall business strategy. Implementation levels of mobile app strategies show that companies have moved fast to embrace mobile and incorporate it into their business.

In 2013, only 7% reported that their organization had fully implemented a mobile app strategy. More than half had not implemented any type of mobile strategy at the time.

Now, more than half (52%) of respondents report that their organization has fully implemented a mobile app strategy. However, 10% still have no mobile app strategy.

More than half of organizations (52%) have a fully implemented mobile app strategy compared with 7% in 2013.

Source: Mobile Survey 2013

Source: Mobile Maturity Survey 2015
Nearly all respondents’ organizations recognize the need for a mobile app strategy. Only 52% have fully implemented a strategy, while 38% have partially implemented one. 10% plan to in the coming year or so.

This shows promise for additional mobile maturity as organizations come to terms with fully executing their strategy and underpinning it with regular reviews that reflect the changing dynamics of mobile and the need to remain flexible and open to change.

89% of respondents have either fully or partially implemented a mobile app strategy and more than half of these (60%) regularly review it.
MOBILE APP DEVELOPMENT INVESTMENTS ARE SET TO INCREASE

Almost all respondents (90%) report that they expect some growth in investment for mobile app development in the next year—with an average expected growth of 24%. This demonstrates that organizations understand the continuing importance of mobile apps to the business and are willing to invest in app development.

Increased expenditure, combined with greater mobile maturity, will mean that businesses will tend to have a more strategic approach to how they invest in mobile and will look to technologies and services that can power this rather than merely “build apps.”
Mobile is instrumental in enabling organizations to transform how they do business. Through device capabilities in combination with back-end business data, business processes can be reinvented for mobile. However, only 35% of organizations surveyed see the primary use of mobility as changing how they do business.

Less-mature organizations use mobile primarily as a means to automate existing business processes (37%), while nearly a quarter (24%) are mobilizing existing web-based processes.

As more organizations fully implement their mobile app strategies, we expect them to mature towards using mobile as a means to transform how they do business.
INDUSTRIES THAT HAVE TRADITIONALLY RELIED ON A MOBILE FIELD WORKFORCE TEND TO BE MORE MOBILE MATURE

More than half of the organizations in the pharma, chemicals, biotech, utilities, oil and gas, mining, and construction sectors are implementing mobile primarily as a means to change how they do business. Interestingly these sectors rely heavily on a mobile field workforce and are not newcomers to mobile.

Financial services and distribution/logistics primarily use mobile to automate existing business processes showing that there is potential for greater mobile transformation here.

<table>
<thead>
<tr>
<th>Industry</th>
<th>Change how they do business</th>
<th>Automate the way we do business</th>
<th>Mobilize existing web-based processes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemicals, pharmaceuticals, and biotech</td>
<td>18%</td>
<td>55%</td>
<td>27%</td>
</tr>
<tr>
<td>Construction, mining, oil, and gas utilities</td>
<td>33%</td>
<td>58%</td>
<td></td>
</tr>
<tr>
<td>Distribution and transport</td>
<td>50%</td>
<td>30%</td>
<td>20%</td>
</tr>
<tr>
<td>Financial services, including banking and insurance</td>
<td>43%</td>
<td>37%</td>
<td>20%</td>
</tr>
<tr>
<td>IT/Computer services</td>
<td>37%</td>
<td>20%</td>
<td>32%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>22%</td>
<td>38%</td>
<td>31%</td>
</tr>
</tbody>
</table>
ORGANIZING FOR MOBILE
HOW ORGANIZATIONS APPROACH MOBILE APP DEVELOPMENT

Analyst reports and surveys indicate an increasing role for lines of business in decision making around mobile app development. According to a survey by CCS Insight in 2015, 69% of all company spending on mobility hardware, software and services comes from outside the IT budget.

While the survey revealed a predominant IT-led approach, where mobility decisions are centralized within the IT organization, more than a third of respondents (37%) indicated that they support a collaborative approach with IT and lines of business working together (mobile center of excellence).

This demonstrates a move towards breaking down silos in favor of shared learning, coordination, and collaboration on mobile app development approaches.

![Chart showing IT-led, Business-led, Mobile center of excellence (MCoE), Adhoc, None of these approaches with respective percentages]

USE OF INTERNAL AND OUTSOURCED RESOURCES

When asked to best describe resourcing for mobile app development over the coming 12 months, respondents made little differentiation between front-end (UI/UX) development and back-end integration development.

The high percentage of companies that plan to primarily use internal resources for app development (60%) seems high compared to other surveys. However, this survey looks at the model that best describes the organization's planned approach which favors the use of internal resources. As mobile maturity advances and mobile projects become more sophisticated, it's not hard to imagine that organizations are building more internal mobile competence, becoming more internally-driven.

60% of IT decision makers see mobile app development best described as “internally resourced.”

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>US</th>
<th>Western Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Internal resources</strong></td>
<td>60%</td>
<td>53%</td>
<td></td>
</tr>
<tr>
<td><strong>3rd party resources</strong></td>
<td>29%</td>
<td>25%</td>
<td>32%</td>
</tr>
<tr>
<td><strong>Don't know</strong></td>
<td>12%</td>
<td>9%</td>
<td>15%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>US</th>
<th>Western Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Internal resources</strong></td>
<td>59%</td>
<td>48%</td>
<td></td>
</tr>
<tr>
<td><strong>3rd party resources</strong></td>
<td>32%</td>
<td>25%</td>
<td>39%</td>
</tr>
<tr>
<td><strong>Don't know</strong></td>
<td>9%</td>
<td>5%</td>
<td>13%</td>
</tr>
</tbody>
</table>

UI/UX development

Backend app integration/development
MOBILE APP DEVELOPMENT
OPEN SOURCE SOFTWARE FAVORED FOR MOBILE APP DEVELOPMENT

85% of respondents report that open source software is important to their organization’s mobile app development strategy.

Respondents in the US are more likely to report that open source software is extremely important (40%, compared to 24% in Western Europe), demonstrating that the US may be more mature in its adoption and recognition of the benefits of open source over proprietary software that hinders flexibility and agility.

The advantages of open source are clear for mobile app development as it propels greater innovation through the power of ongoing community contributions. Similarly, community participation also increases the speed of app development and time to market—a critical requirement for mobile.
Over the last 2 years, almost half of the organizations surveyed (52%) had developed fewer than 10 custom mobile apps, with 45% creating more than 10. Despite the hype surrounding mobile and opportunities for custom apps to enable greater workforce productivity and enhanced customer engagement, the number of custom apps created is low.

Looking to the next two years, these volumes climb with 65% planning to develop more than 10 custom apps and 1 in 5 organizations seeing potential development for greater than 30 apps. As the volume of existing and planned mobile apps increase, the need for greater control and management of these app development projects will come into play.
USE OF PLATFORM TECHNOLOGIES AND FRAMEWORKS

While platform technologies have been adopted by organizations to support their mobile app development initiatives, there is a diversity of approaches that are being taken with mobile application development platforms and application programming interface (API) management currently being the most popular but with MBaaS and RMAD tools gaining more attention in the coming two years. However, awareness levels of MBaaS amongst IT decision makers is low with almost one in five not aware of this as a tool for mobile app development. This is surprising given the complexity and costs associated with integrating mobile apps to back-end systems but could also be a reflection of a fragmented vendor and solutions landscape that makes it hard for organizations to keep up with the diverse and fast-changing pace of the technology landscape.

<table>
<thead>
<tr>
<th>Technology</th>
<th>Currently using</th>
<th>Planning to use within 2 years</th>
<th>Aware of this tool but not planning to use</th>
<th>Not aware of this tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile Backend-as-a-Service (MBaaS)</td>
<td>31%</td>
<td>36%</td>
<td>18%</td>
<td>17%</td>
</tr>
<tr>
<td>API management</td>
<td>51%</td>
<td>28%</td>
<td>13%</td>
<td>9%</td>
</tr>
<tr>
<td>Mobile application development platform</td>
<td>54%</td>
<td>27%</td>
<td>12%</td>
<td>8%</td>
</tr>
<tr>
<td>Rapid mobile app development (RMAD) frameworks</td>
<td>37%</td>
<td>34%</td>
<td>18%</td>
<td>12%</td>
</tr>
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</table>
Lightweight languages and frameworks have taken off for mobile app developers with JavaScript-based frameworks showing their popularity. While many organizations indicated that they currently use Java and .Net for their mobile development, there is a distinct move towards displacing these heavyweight languages in favor of more lightweight languages. That is not to say that IT organizations will abandon Java and .Net for other enterprise software development.

For example, developers could develop for mobile using Node.js that would connect via an API layer to existing back-end systems, many of which are Java-based.

Node.js has been embraced by some large companies (e.g. Walmart, Paypal) to give them more flexibility in continuous development and deployment of mobile applications that allow them to respond faster to changing business requirements. The success with this has led to increased adoption of Node.js for applications such as mobile that demand a more flexible and modular approach to development rather than more traditional monolithic applications that favor Java, .Net, etc.
KPIS AND MEASURING SUCCESS
HOW IS MOBILE APP SUCCESS MEASURED?

85% of respondents report that their organization is using key performance indicators (KPIs) to measure the success of their mobile applications.

However, 51% report that KPIs are only used to some extent, and are not fully supported. This shows that, despite the majority understanding the importance of monitoring mobile app success, there is still a large number of organizations that need to increase their commitment to KPI use—particularly with most intending to increase their investment.

Some examples of KPIs that help give insight on app usage may include:
- App downloads/installs/pageviews.
- Active users over time.
- Requests to back-end data.
- Alerts on failures.
- Orders processed.
- Work orders completed.
- Average session time.

Many more criteria can be added depending on the use case for the app.

We fully support the use of KPIs to measure mobile application success
We use KPIs to some extent to measure mobile application success
We use other means to measure mobile application success
We do not measure mobile success
MOBILE APP STRATEGY AND KPI MEASUREMENT

The business case for mobile is often built by business leaders, but the burden of implementation then falls squarely on IT. Attempting mobile development without a clear-cut strategy and quantifiable metrics is a recipe for cost overruns, project delays, and ultimately failure.

Forrester Research, Michael Facemire, “Putting a Price on Mobile Strategy”

The survey also revealed that organizations with a fully implemented mobile app strategy are more likely to support the use of KPIs (96%) with 51% fully supporting KPIs. This firmly supports the link between a well-implemented mobile app strategy, a set of KPIs derived from the business strategy, and the potential for better mobile app performance.

- **Fully implemented**: 52%
- **Partially implemented**: 37%
- **Not implemented**: 11%

- **We fully support the use of KPIs to measure mobile application success**: 51%
- **We use KPIs to some extent to measure mobile application success**: 45%
- **We use other means to measure mobile application success**: 3%
- **We do not measure mobile success**: 1%
Almost three quarters (74%) of respondents, whose organization use KPIs to measure mobile success, report that they have achieved a positive return on investment (ROI).

The US leads the charge with almost 4 out of 5 companies indicating positive returns on their mobile apps compared with 68% in the European countries of UK, France, and Germany.

Across the board, only 4% of companies that use KPIs to determine mobile app success are indicating a negative ROI.

The value of mobile apps lies in their potential to increase the productivity of the workforce and/or push new or increased revenue streams through better customer engagement. Without a means to measure app success and tie this to strategic objectives, a vision for mobile success becomes elusive. Part of building mobile success also means trial and error especially in the early days of mobile project roll out.

Mobile app ROI is as much about measuring the value as it is the costs of app development, deployment and management so think beyond development costs to also include the cost of infrastructure, hosting, toolkits, testing, and maintenance.
RESPONSIBILITY FOR TRACKING KPIS FOR MOBILE APPS

According to the IT decision makers surveyed, senior IT heads are most likely to be currently primarily responsible for tracking KPIs (72%). This looks set to change, as only 43% expect them to remain primarily responsible in 1 year’s time.

By contrast, only 17% report that the lines of business heads are currently responsible, but 42% expect them to be primarily responsible in 1 year’s time. This demonstrates the increasing role that lines of business plays in mobile app projects. However, when asked who plays a role in tracking KPIs for mobile, business, IT, and chief mobility/digital officers were cited as playing a role.

<table>
<thead>
<tr>
<th>Role</th>
<th>Currently primarily responsible</th>
<th>Expect to be responsible in 1 year's time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior IT heads and their managers</td>
<td>72%</td>
<td>43%</td>
</tr>
<tr>
<td>Line of Business heads and their managers</td>
<td>42%</td>
<td>42%</td>
</tr>
<tr>
<td>Chief or Head of Mobility/Digital</td>
<td>11%</td>
<td>14%</td>
</tr>
</tbody>
</table>
The importance of mobile app development is clear:
- 89% of respondents have implemented a mobile app development strategy
- 95% expect investment in development to increase (by 24%, on average)
- 74% of those using KPIs to measure success have seen a positive ROI

However, approaches to mobile app development still need to mature:
- 53% have either only partially implemented a strategy or else do not regularly review their strategy
- Only 37% are using a collaborative mobile center of excellence
- Only 35% are fully supporting the use of KPIs to measure mobile success

Red Hat’s experience and leadership in enterprise IT, its portfolio of open source and cloud technologies, and its mobile capabilities and mobile application platform can help your organization evolve towards greater mobile maturity.