WHITEPAPER

Barcoding, Incorporated

Best Practices for Mobile Implementation Success

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Competitive organizations realize the power and necessity of mobile and wireless technology; however, pulling the trigger to change internal processes (and write those big checks) is another matter entirely. Whether the organization is moving from "pencil" procedures or upgrading, CEOs, directors of IT, and operational managers cannot afford to be wrong when making these critical decisions.

Typical issues in a mobile implementation revolve around a similar theme – lack of proper organization and discipline. Complaints like "the inception phase went on too long"; "the business changed before the cost of the final project was complete"; "there was too much 'feature function' pushed into phase one" and "the scope grew out of control" are common when there is a lack of experience and a lack of planning from the start.

> **Understand** your company's perceptions of the technology's capabilities and temper those expectations with ideas and plans grounded solidly in reality.

The most overlooked and yet essential best practice for a mobile project is selecting an experienced project manager. Choosing an experienced, knowledgeable project manager means lower costs and a faster, more successful implementation than one done without such expertise. Building a quality mobile solution begins with a strong team endowed with the capability to make smart decisions, to recommend quality tools, and to build a trust that will last throughout each phase of the project.

HOW TO FIND THE RIGHT PARTNER

The proliferation of mobile devices is great for price and selection but hardware is just a fraction of what's required. For a successful project, you need a partner with deep implementation experience and a finely honed methodology. When you research possible business partners in the mobility field, challenge them with questions that go beyond hardware costs.

You are looking for a systems integrator and a trusted advisor. Sample questions include:

- What level of relationship does the provider have with industry-leading manufacturers and software developers?
- What is the provider's level of experience with different types of mobility projects?
- What is the provider's relationship to their existing client base? Does the provider have reference clients willing to discuss their experiences and their level of trust in the partnership?
- How is the provider supplying leadership in cutting-edge technology and processes?
- Can the provider explain, in detail, their implementation methodology and how it has proven successful in the past?
- Does the provider have longevity and financial stability?
- Does the provider offer complete post-implementation support services?
- Does the provider provide e-learning and user training for all software and hardware?
- Does the provider have seasoned project managers with track records in Project Management Body of Knowledge (PMBOK) and a career of successful implementations?

HOW TO APPROACH A PROJECT

Once you have a partner in place, the key to any mobile implementation project is to take a phased approach, giving priority to the highest return on investment (ROI) steps. Focusing on high ROI tasks ensures that your company will show a rapid benefit, while staying on budget. By justifying the costs early on, you'll keep your basis for funding intact.

Second, flexibility and a willingness to embrace change are important for both your company and the mobility partner. One best practice is to begin the field pilot as quickly as possible in order to address any unexpected bugs. Operating and testing in the field will illuminate those "real life" contingencies that just can't be planned for in the "laboratory".

WHAT TO EXPECT DURING IMPLEMENTATION

Mobility projects require coordination of three distinct development streams: hardware, software, and services. These are managed separately but must be brought together at precise times to keep the project moving forward.

STAGE ONE: PLANNING

Conduct a mobility and process assessment. One specific pain point often drives the decision to adopt a new mobility solution; however, the ideal case is to address multiple needs with one implementation. These needs may not be obvious; the best practice is to start a mobility project with an assessment of current processes as well as the overall market:

> **The** key to any mobile implementation project is to take a phased approach.

- How are customer demands and new capabilities changing the industry?
- How can other departments make use of real-time mobile devices in the field?

Experienced mobility integrators often request "ride-alongs" with field staff at the needs assessment stage to observe current processes and compare them to best practices in the mobility industry and the applicable vertical market. You want to document true business practices versus those on paper. Workarounds developed in the field are necessary to know before implementation.

Mapping existing and proposed business processes reveal opportunities and potential areas of impact. For example, "back office processes" based on receiving data in a slow and steady trickle may need to be adjusted for a sudden flood of information coming in via real-time field data collection.

Appoint project leads and executive sponsors. In addition to a certified project manager and your solution provider's software development, hardware, and service experts, a mobility project team should include representatives from your line of business units, the user community (including a super-user), and IT staff knowledgeable about back-office systems. Active participation by a motivated executive sponsor is critical to the success of the project.

Plan to receive executive signoffs early in the project. Their decisions have a profound impact on the rollout, and you want to limit scope creep as much as possible. Having executive support throughout every phase will help limit last minute surprises.

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Create a technical and business roadmap. A business roadmap reflects how the application will accommodate business needs. The technical roadmap outlines how the application will dovetail with the organization's IT plans, such as an anticipated enterprise resource planning (ERP) rollout.

Assessment process results are formalized into documents including the:

- Requirements document;
- Statement of work, confirming all product and service deliverables;
- Business case, outlining the expected return on investment and total cost of ownership;
- Design document, which may include prototypes and flow charts, to show exactly how the software will be set up;
- A test and use case plan, which will be used to run the newly developed software through various use scenarios to ensure it responds appropriately;
- List of additional deliverables;
- Time line for the project.

Don't skip development of a design document. Taking this step in the beginning helps users understand exactly how the software will function. Once programming starts, it is more expensive to make changes, so spotting design flaws in advance saves money. A design document also speeds development.

Once the project has been documented, members of the project team are assigned specific responsibilities for which they will be held accountable. Once the team signs off on the project plan, it's time for development.

EIGHT PITFALLS TO AVOID IN A MOBILE IMPLEMENTATION

1. Failing to consider at the outset what OTHER things the enterprise can do with mobile technology; this is particularly costly when the hardware choice can't accommodate any new needs.

2. Ignoring competitive pressures and market shifts that will change your industry and, therefore, your mobile needs.

3. Skipping project management services.

4. Basing solutions on what executives think happens versus what actually happens.

5. Choosing project team members without the right skill sets.

6. Failing to create a design document.

7. Not planning for essential but often-forgotten steps, such as allotting time and resources to charge all the new batteries before image loading and deployment.

8. Developing help desk and support after the fact.

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STAGE TWO: DEVELOPMENT

At this point, most day-to-day work is performed by your solution provider's staff, ideally led by a project management professional skilled in the use of the Project Management Body of Knowledge (PMBOK).

During the development phase, the project manager (PM) conducts two weekly status calls; one with the solution provider's internal technical team and another with the executive sponsor. Every Friday, the PM issues a status report listing activities on the time line, with a green-yellow-red color scheme to show where the project is on or off plan.

The three development teams embark on their separate tasks, monitored by the PM.

Software: The software development team creates the design document. They use this to guide code development or configure third party software, if desired. The software team works with the client's internal IT team to integrate mobile applications with host software (such as ERP systems).

The first software deliverable is a set of screens with no logic behind them to show the flow of the application and reveal any issues not discovered in the design document process. This step ensures that user interfaces are logical, easy-to-read, and pleasing to the eye.

Once any issues are addressed, the next deliverable is a working alpha version. Run this against the test and use cases developed previously to ensure the software functions as specified.

Hardware: Decisions on hardware must be made early on in a mobility rollout. Once mobile hardware is deployed, changes are more costly and challenging, particularly those that require the hardware to be returned for alterations. This difference impacts many decisions throughout the development process.

Decisions on hardware must be made early on in a mobility rollout.

For example, a large-scale project may call for a staged rollout across departments or regions over a one-year period. This suggests that hardware purchases be made in increments to spread out the cost; however, since hardware manufacturers may change firmware nearly every quarter, a staggered purchase plan could result in a range of different firmware versions in the field – making support and troubleshooting more challenging.

Critical elements to a smooth hardware experience are documentation, consistency, controls, and defined, repeatable processes.

- Locate appropriate hardware according to end user and software requirements for team testing and final selection. Specifications include the required operating system as well as: security requirements, processor speed, form factor, size and weight, ergonomics, data collection capabilities (imager, scanner, key entry, RFID, mag stripe, etc.), screen size, graphics, color, keypad design, radio type, battery needs, and resistance to environmental factors.

- Match network coverage requirements and recommend carrier (or carriers). Carrier selection also determines what radio(s) must be incorporated into the hardware. In some cases, this may require requesting APN (access point name) permissions from the carrier, which offers benefits akin to a private wide area network, including security. For WiFi networks, your solution provider will conduct a site survey, determine strategies to ensure strong signal throughout the operating area, and specify and install a wireless network.

- Place the hardware order, taking into account 4-6 week lead times and prep times.

- Receive and configure hardware, including charging batteries (4-5 hours for each main battery and 12-16 hours for back-up batteries), flashing the gold image (20 minutes per device), conducting final testing, and staging and kitting for distribution to the end users.

Services: During the development phase, service experts create help desk and support materials, such as triage and escalate procedures and plan and design training programs.

Failing to build out help desk documentation and processes until after deployment is a common error in mobility projects. The immediate post-implementation period can be the busiest time for a help desk, particularly if your organization is providing its own Tier 1 support. If this is the case, those technicians likely have little knowledge of mobility hardware or software and will need to rely on good help desk and training programs set up by your solution provider.

E-learning and training programs cover the use of hardware, software, and basic troubleshooting techniques. A train-the-trainer component will allow you to train future new users or application changes. A training design may include webinars as well as on-site training.

STAGE THREE: IMPLEMENTATION
Implementation starts with a pilot of the new solution. A best practice is to pilot a top-performing location, an under-performing location, and one in the middle to assess the project's success in each of these environments.

A period of acceptance testing follows the pilot, and then the team determines if any changes are needed before creation of a production version, also called a gold image.

Finally, the project is ready for "Go Live", including training. In most large implementations, staging is done by region.

Failing to build out help desk documentation and processes until after deployment is a common error.

STAGE FOUR: MAINTENANCE AND SUPPORT
In the excitement of a project launch, it can be difficult to remember that there is life after rollout. Inevitably, mobility needs will evolve, members of the project team will move on, users will have questions, new hires will need to be trained, and hardware will get damaged or lost. Documentation of the software image, roadmaps, training processes, and support procedures can be invaluable in maintaining and modifying the project moving forward.

Make sure that your solution provider offers additional services like:

- Equipment repair services. This could be through depot repair service, on-site repair, or a maintenance contract. A solution provider with manufacturer repair certification is equipped to provide high-quality repair services.

- Post-implementation support, including Tier 1 or 2 end user phone support, to answer questions and walk users through performance issues.

- Remote network monitoring services.

- Device management and remote monitoring of mobile devices to help spot problems before they develop into larger problems.

- Software/firmware upgrades.

DON'T FORGET THE FIRST LESSON – IT ALL STARTS WITH THE TEAM

Experience, expert project management, and a well-honed methodology are the difference between a project that's on-time and on budget, and one that experiences delays and costly over-runs. If you need more information regarding mobility implementations, please contact an expert at Barcoding Inc. today.

GETTING READY:
WHAT CLIENTS CAN DO TO ENSURE THEY'RE PREPARED

Understanding the process goes a long way toward the success of a mobility project. Here are some other steps companies should take to prepare:

- Appoint to the project solution team every department the solution will touch.

- Gather all existing documentation of current processes.

- Designate a project owner who truly buys in to the project mission.

- Devote adequate technical and financial resources.

- Be aware of potential pitfalls.

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