

Trends in Mobile Data Capture—A Whitepaper



Today we live in a world that relies heavily on the use of technology to bring sanity to the business challenge known as “unstructured knowledge”.⁶ Businesses utilize electronic devices to transform what was once haphazard information into easy-to-access, accurate, and reliable sources of data information. Having this real-time access to business records speeds up overall operations for a company. Firms in various types of industries are adopting mobile technology to facilitate business practices that are more responsive to customer needs. This technology has become increasingly flexible, with the advancements made by mobile solutions firms. In fact, this **flexibility has become a key factor that has pushed companies to switch from paper-based to paper-free procedures.**

In 2012, Mi-Corporation (based in Durham, North Carolina) surveyed 121 companies to find out their preferences related to enterprise mobility. The survey results show the following:

- **40%** of users have deployed tablets to capture data, and **36%** are planning to do so in the future
- When selecting a mobile-forms technology, users most highly value technology flexibility, followed by price, enterprise architecture/scalability, and company experience & longevity.
- The most preferred method for filling out mobile electronic forms is touch, then handwriting recognition/inking, then keyboard entry, and finally speech recognition/voice recording.
- **53%** of organizations prefer iPad/iPad Minis, while **40%** for Windows and **31%** for Android tablets.

Mobile Data Capture

These firms are utilizing **mobile data capture**. Companies with paper-free processes are vastly more efficient when compared to paper-based companies. Accordingly, mobile data capture within businesses is becoming increasingly common, and is expected to keep growing in upcoming years.

These Industries Benefit from Mobile Data Capture:

- Healthcare
- Field Inspections
- Manufacturing
- Education
- Nonprofit
- Financial Services
- Government
- Real Estate
- Publishing
- Insurance¹

By utilizing technology that facilitates mobile data capture, **companies can improve their data input efficiency and accuracy, which simultaneously speeds up turnaround time and drastically reduces operational costs.** By switching from paper forms to electronic forms (e-forms), firms can save money on paper, labor, ink, office buildings, transportation, and more.



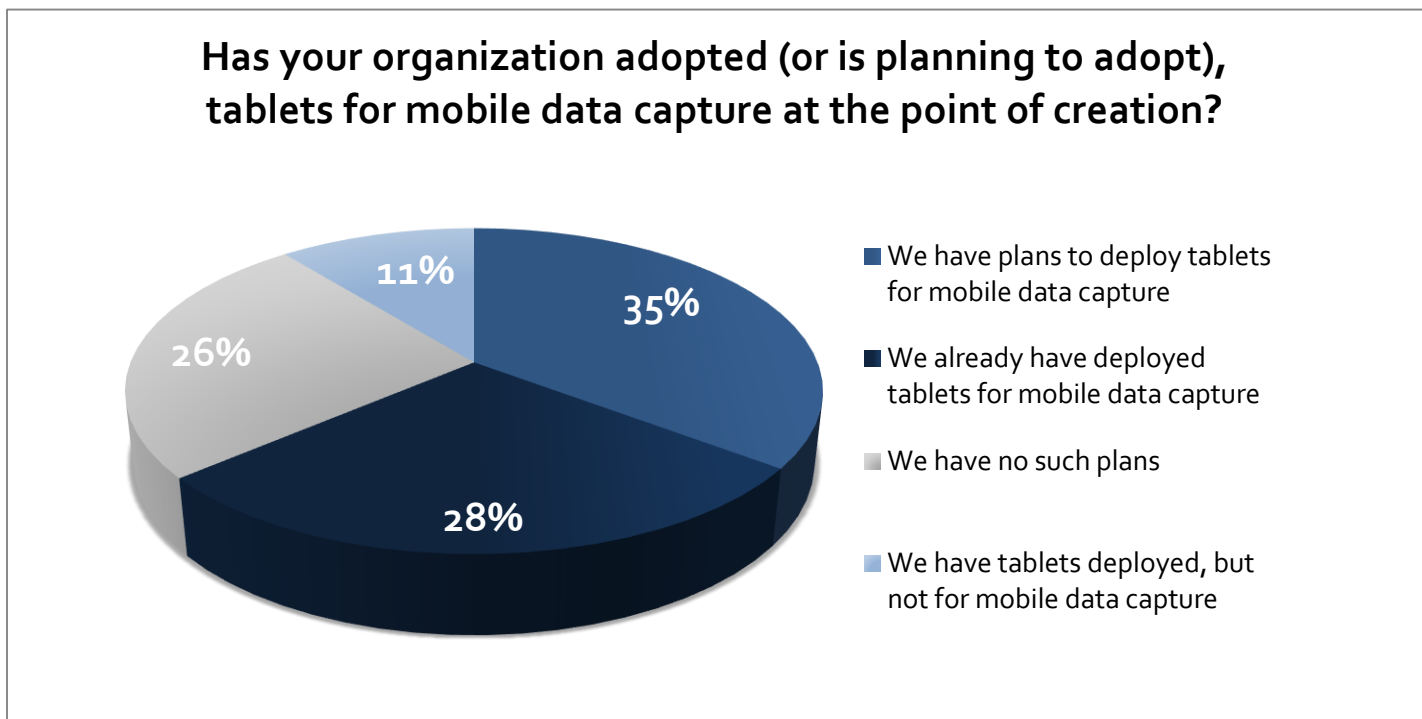
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One reason mobile data capture is gaining popularity is the fact that the newest members of the working population are from Generation Y (currently 24 to 32 years old). Generation Yers are famous for their familiarity with technology, and are very likely to own multiple connected devices such as smartphones, tablets, and computers. Generation Y's integration of technology into daily life is most likely a huge contributor to the fact that Lenovo anticipates that **enterprise tablet adoption will increase 700% (from 13.69 million to 96.38 million units) from 2011 to 2016.** ³

72% of Generation Y own smart phones ⁷

Methods of Capturing Data

To address the mobile data adoption issues that companies currently face, data capture firms have developed several different ways for users to collect data. Accordingly, Lenovo reports that 78% of firms plan to have tablets deployed in their operations by the end of 2013.³ This is corroborated by the fact that Mi-Co's survey found that **just over 75% of firms either already have, or soon plan to deploy tablets in their operations.**



While tablets are just one component of business mobile strategy, tablets are becoming an important staple in the modern world. Experts believe that one reason tablets have become so popular is the extreme ease with which different mobile applications can improve business processes. This flexibility in technology allows employees with all levels of technological skills to use mobile data capture.

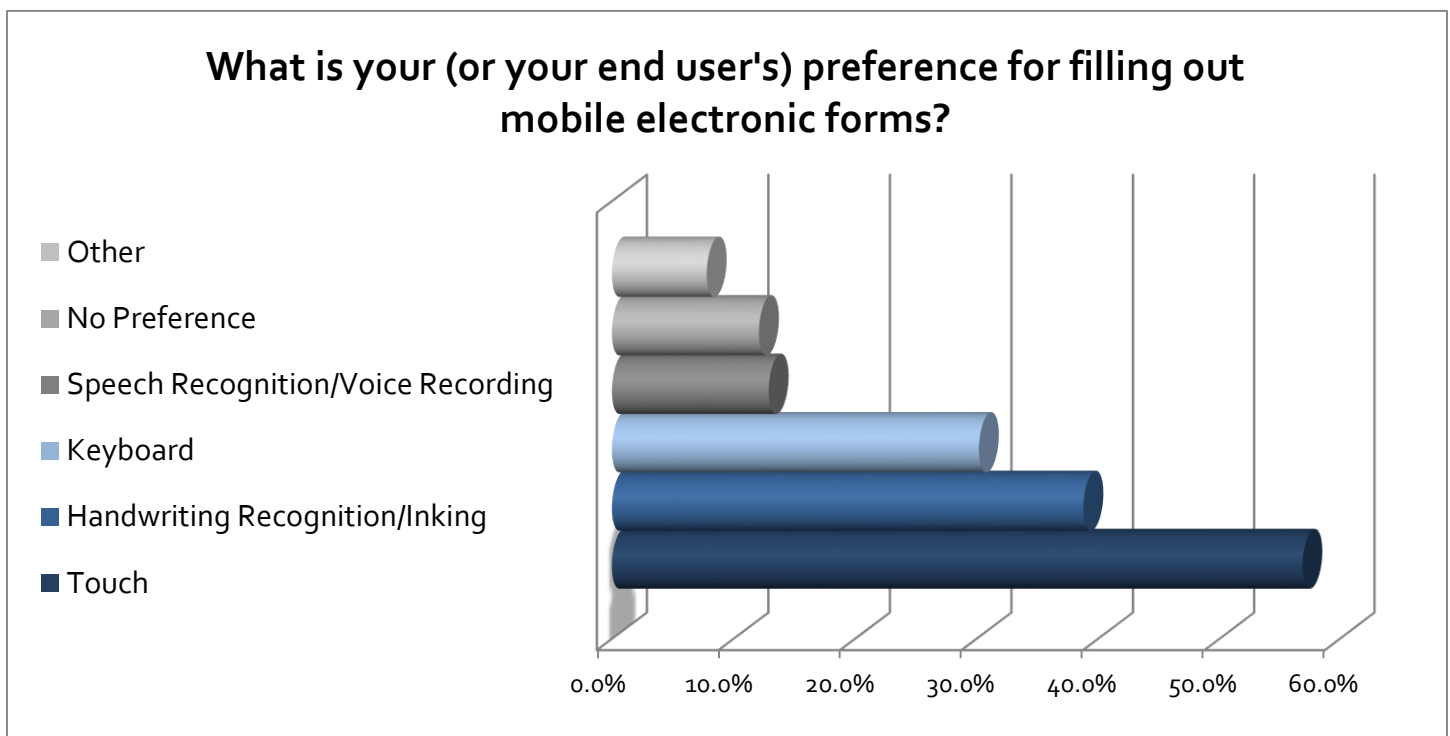
Some ways that data can be captured electronically (online and offline) are:

- **Touch input:** employees can quickly input data onto their electronic forms with either their fingertips or a digital pen. Some elements of mobile forms that work with touch input are checkboxes, picklists, date pickers, and toggles.
- **Handwriting recognition & inking mechanisms:** users can handwrite notes onto an e-form with a digital pen, and the e-form will automatically prompt users to clarify unclear data to prevent errors. Then, the data is then digitized and automatically transferred to the company's main server.
- **Keyboard text input:** users can also type data onto their e-forms using laptops and PC keyboards, improving data accuracy and reducing input time.

- **Speech recognition& recording:** users can record notes by speaking out loud, and the e-form will recognize the voice and scribe notes in a neat and easy-to-access manner.
- **Time stamping:** users will know precisely when a form was last updated, in order to ensure the most up-to-date information is being used.
- **Photo capture & annotation:** pictures can be attached to mobile forms, visually substantiating the form's preexisting data.
- **Barcode scanning:** users have the ability to scan documents, packages, badges, etc... in order to facilitate faster identification and to reduce task completion time.
- **GPS stamping:** e-forms are stamped with a time, date, and location at point of data creation, speeding up the data input process.
- **RFID capture:** forms utilize RFID technology to enable faster form completion.

Some of these options give employees the ability to continue using their current data input methods, but with a more accurate and efficient method of doing so, eliminating costly data transfer errors and inconsistencies. This reduces the learning curve associated with introducing new technology, but still reduces the time required to input data.

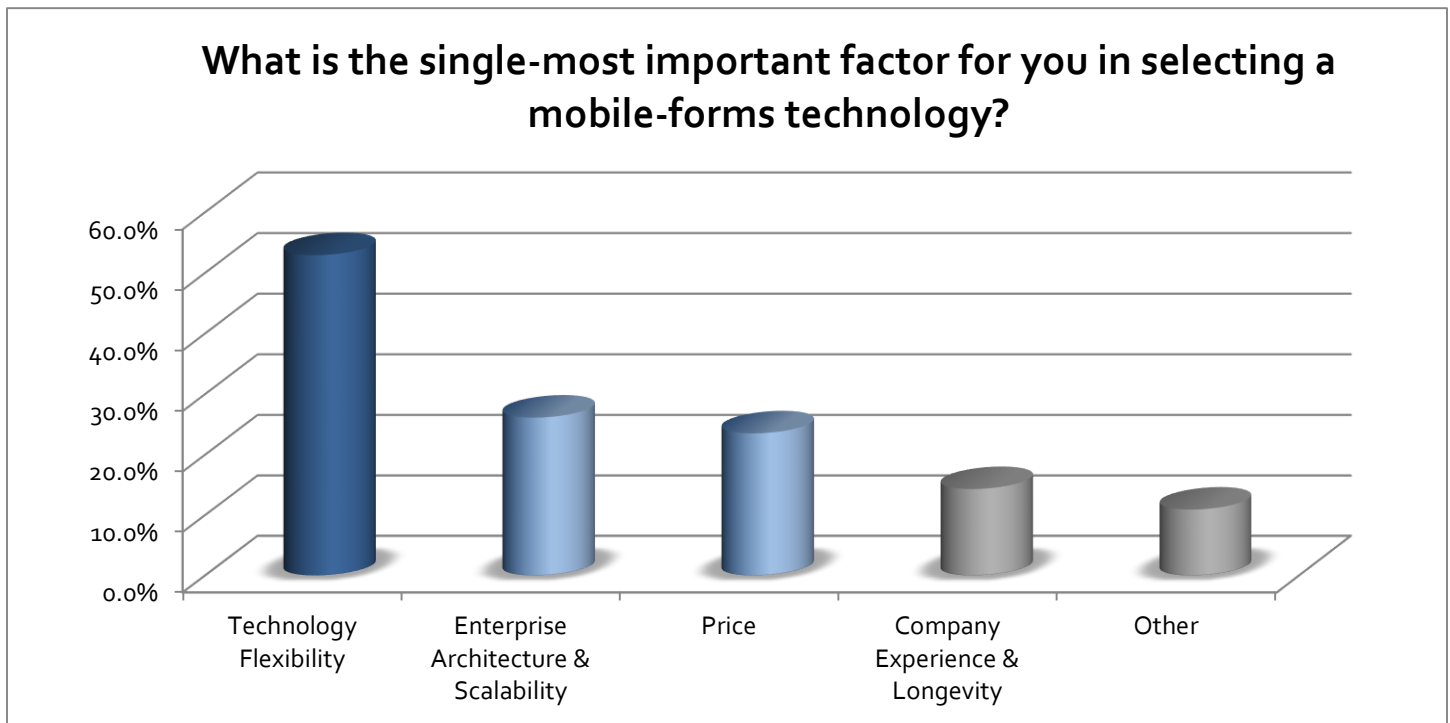
Finding a suitable type of mobile data processing technology depends heavily on the firm itself, in addition to the industry in which the firm operates, the firm's nature of work, and the technological background of its employees. Overall, Mi-Co's survey found that *most e-forms users prefer keyboard, handwriting recognition/inking, and touch data entry methods over speech recognition entry.*



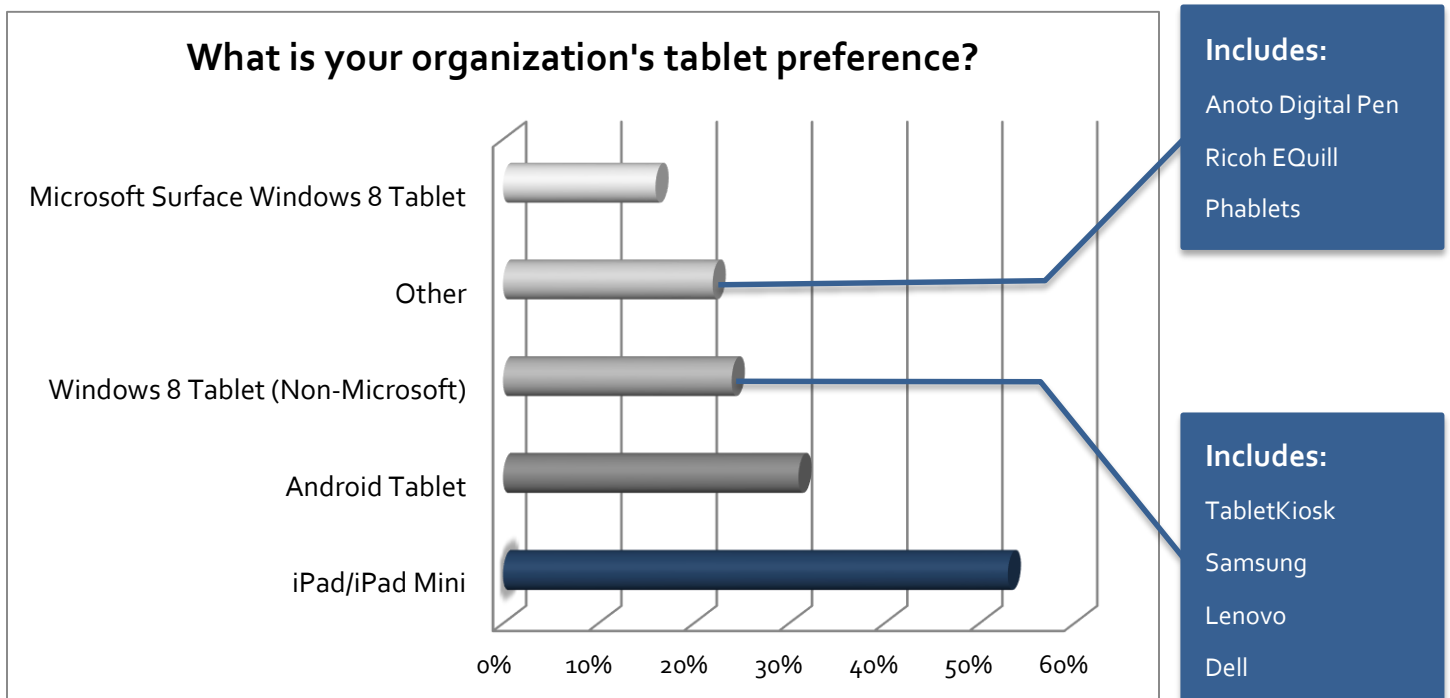
Flexibility is Key in Mobile Data Capture:

However, business needs vary greatly from firm to firm. Therefore, mobile data firms have created flexible data solutions that can be used on several different types of software and hardware.⁵ Now, **one company can use the same e-forms on several different types of devices, improving the efficiency and flexibility of these e-forms.** Companies have the flexibility to use platforms with which they are most accustomed to for different jobs, further easing the new process implementation. This technological flexibility is highly valued

by companies, as found in Mi-Co's survey; the survey unearthed that *firms place an extremely heavy emphasis on technological flexibility, followed by enterprise architecture and scalability, and price when selecting a type of mobile-forms technology.*

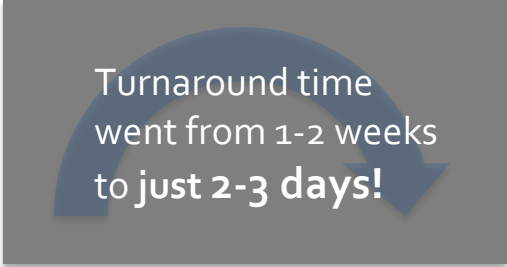


Moreover, this flexibility **must** span across all types of devices—and it does. Data capture firms now have the ability to create an electronic form that can be used on an Android Slate, an iPhone, and a Microsoft Surface, simultaneously. This is extremely beneficial for companies that have varied device preferences. Mi-Co's survey found that *iPads and iPad Minis are the preferred business touch device by over half of surveyed organizations, however these same organizations also hold Android and Windows tablets in high regard.* This is likely one reason why the NPD predicts that over 240 million tablets will be shipped in 2013.⁴



North Carolina Department of Agriculture and Consumer Services:

This flexibility is not just company-specific, but can also be applied across an entire industry. Once a mobile enterprise solution has proven to be successful once, it is extremely easy to adopt this solution in many different ways. One example is the North Carolina Department of Agriculture and Consumer Services. Before its Structural Pest Control & Pesticides Division started using mobile data capture, it would take anywhere from one to two weeks for an entire inspection to be carried out and recorded. This process involved filling out paper forms, transferring data into the company server, and mailing these forms back and forth amongst different departments—a very time consuming process. **After adopting a Mi-Forms tablet solution from Mi-Co, this turnaround time was reduced to just two to three days**, and improved its accuracy dramatically. (As a side note, this is not a unique scenario; the ALLM found that **paper-free processes can improve productivity by 30 to 50%, and also yield a 3 to 10 times reduction in turnaround time**).² Since then, this system has been/will be implemented in several other states, including: Pennsylvania, Maryland, Florida, Delaware, Alabama, Virginia, West Virginia, Tennessee, and Mississippi.



Turnaround time
went from 1-2 weeks
to just 2-3 days!

Conclusion

Recording and analyzing business data electronically is becoming increasingly more popular over time, especially as technology firms are creating more innovative and sophisticated methods of doing so. Now, companies have the flexibility to choose their optimal means of mobile data capture. Although companies in different interests have varying user needs and preferences, they usually see similar benefits, including:



Increased:

- Productivity
- Customer satisfaction
- Data Accuracy
- Technology flexibility
- Economic responsibility



Decreased:

- Turnaround time
- Operating costs
- Unnecessary labor
- Materials waste
- Input errors²

Implementing Mobile Data Capture

For companies implementing, or thinking of deploying, Tablet e-Forms for their field personnel, Mi-Co offers online demonstrations, evaluation copies of Mi-Forms software, and project consultation services. To get started, please visit <http://www.mi-corporation.com/products/demos-and-download/> or contact Mi-Co at 866-610-1942 or info@mi-corporation.com.

About M-Co

Mi-Co is the developer of Mi-Forms, the market's leading Tablet e-Forms software platform. Mi-Co provides solutions for smart, flexible mobile e-Forms data collection in a variety of industries. Mi-Forms supports enterprise data capture using Windows 8 Tablets like the Microsoft Surface, the Digital Pen, iPads, Android Slates, Ricoh eQuills and other mobile capture devices across diverse industries and has worked with customers like AT&T, the United Nations, Sutter Health and many others. For more information on Mi-Co, please visit www.mi-corporation.com.

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