Do Native Mobile Applications Work for the Agricultural Commodity Industry?

What is a Native App?

Native apps are compiled applications written in low level programming languages specific to the target platform (usually Apple iPhone and Android). They are distributed through a platform-controlled store, often with a transaction fee (effectively, a tax). Apps have to be submitted for approval for every update, and often get rejected which leads to delays getting to market.

Apps in Agriculture

There are hundreds of apps languishing on the various app stores targeted at the agricultural commodity industry. You can find them if you look hard enough and know what to search for. The majority are provided by agri supply companies targeted at their customers.

If you look closely, you will notice:

- Most are simply repackaged and branded generic apps written by a small number of software vendors.
- There is a focus on basic functions like local weather and commodity prices that can be found anywhere on the web.
- Where they do provide transactional data, this is stale data copied periodically from the agri supply company's business systems and held in the software vendor's cloud platform.
- Many don't have enough reviews to get a rating in the app store and those that do look suspiciously like someone trying to manipulate the rating system
- After initial launch, most of these apps don't get updated. The version histories are sparse with rare minor updates spread over years.

What Your Customers Really Want in an App

In reality, what your customers want are meaningful functions that replace the interactions they have to perform directly with your business. This includes actions such as getting statements, paying bills, and inquiring about specific transactions. They want to see "live" transactional data. Things like weather and commodity prices are just "extras" they might use, not functions that drive them to utilize the app.

Oftentimes, an investment has already been made to provide these business interaction functions via the company website. The problem is, to make the same capability available for mobile apps, the investment has to be made again for each additional platform (e.g. Apple iPhone and Android) because they all have their own unique set of tools and technologies. Building and continuing to evolve three separate solutions is expensive and unlikely to deliver the business case expectations.

So What's the Answer?

The solution to this problem is the "Progressive Web App" or PWA. Essentially, a PWA is a mobile website that provides the app experience without the app. They invisibly use the native browser on the device as the shell and can be "installed" directly onto the mobile home screen, so it's very difficult to tell which are native apps and which are PWAs. Critically, the PWA also supports all of the things users love about native apps such as the app shell, offline usage, integrated telephony features, notifications, an always-present navigation bar, etc.

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Mobile websites have been around for ages, but previously the user experience could not come close to that provided by native apps. In recent years, however, web technology has basically caught up and can now offer similar capability and performance to native apps, but with added advantages. The key enabler has been the recent inclusion in all modern browsers of a capability called a "Service Worker."

The Service Worker was the missing piece that securely provides access to the device features (e.g. cache for offline usage, push notifications, background sync, etc.) and enables the PWA to provide all the capabilities expected from a native app. Previously this could only be done by using a platform specific "native wrapper" around the mobile website to integrate with each device.

Many of the native apps you use today are actually web apps embedded in a native wrapper, primarily to enable them to be added to app stores. The majority of these are already available as PWAs or are being converted.

PWA Breakdown

Some great examples of PWAs are those from Twitter and Starbucks. They have virtually 100% feature/ function parity between their native and PWA apps, but from personal experience, the PWA is reliably MUCH faster, especially on older devices.

Some key advantages of a PWA over a native app are:

- It doesn't need to be installed via an App Store
  - Feature updates are available immediately, meaning you don't have to submit and get app store approval.
  - You don't have the App Store "tax" on sales through the app.
  - It provides a competitive advantage over competitors with native apps.
- Cross Platform support enables a single investment capable of being used across all platforms
  - This means a much lower initial and ongoing cost.
- The PWA can be added to (mobile) home screen
  - There is no need to download a large app.
  - This saves serious memory space on the device.
  - It is much faster to load.
- PWAs rank in search engines
  - They respond to your SEO (search engine optimization) investments.
  - They are not impacted by negative reviews like in an app store.
- You can put a direct link to your PWA in all communication with customers
  - Users can easily share the link with colleagues.
- The technology will continue to evolve and get even better

For our clients, the primary aim of an app is usually to drive their customers toward choosing their business over the competition by providing additional and superior services. There isn't a need to generate revenue directly from the app itself. A PWA can make economic sense for highly customized agricultural solutions, usually with a low userbase.

Before the "Service Worker" capability was available, we avoided building pure native apps and instead used the mobile website in a native wrapper approach. The tool we chose for the native wrapper also supports deployment of the same app as a PWA. This means we have been able to take advantage of the new PWA capabilities from the get-go.

How Solentra Can Help

If you already have a website that provides the capabilities you want in a mobile app, we can provide the expertise to help refresh your site by converting (and even extending) the functionality into a PWA. The conversion will be quicker and cheaper if your website was originally designed with a responsive design and/ or a mobile-first approach.

If you are starting from a clean slate, we have all the building blocks required to rapidly assemble a PWA solution and extend it with custom capabilities that meet your specific business needs. If required, our team can work closely with your internal teams and/or your other technology partners to deliver the solution you need to drive your agribusiness forward and ahead of the competition.

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