The utility of Mobile Apps as a Service (MAaaS):

A case study of BlueBridge Digital

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Abstract

Purpose: This case study examines the Software as a Service, Mobile Apps as a Service (MAaaS) as pioneered by BlueBridge Digital and their subsidiary VisitApps. This system is analyzed against current market trends in relation to the niche industry of tourism mobile application development and the broader mobile application development industry as a whole.

Design: A survey of the industry is conducted via current literature and market analytics. The information for the case study is provided directly by BlueBridge founder and CEO, Santiago Jaramillo in addition to other employees. Additionally, the problem of implementing this model in China and other developing economies is explored via existing literature.

Findings: This paper finds the model Blue Bridge’s subsidiaries offer to be a superior model of application development, delivery, and support than other common existing models for mobile application vendors. Further, many of its best practices may be replicable in developing economies.

Originality: The originality of the business model in question and the exploration of its possible implementation in developing economies provide value and new information to the body of literature and record surrounding mobile application development.

Keywords: mobile application development, software as a service, recurring revenue, tourism

Paper Type: Case study
1. Introduction

Since Apple’s introduction of the iPhone in 2007, mobile computing has evolved at a blisteringly fast pace that has sometimes left business struggling to provide relevant services to their customers. At the launch of the Apple's App Store in 2008, 500 native apps were available (“iPhone 3G…,” 2008), and the store exploded in a matter of months. The most recent data provided by the company indicate that the number of native applications has increased to upwards of 800,000 and downloads to over 40,000,000,000 (“Apple Updates…”, 2013). In addition, large technology companies including Google, Windows, Amazon, and Blackberry have launched e-commerce stores for their native mobile applications whose sales are not reflected in Apple’s statistics.

That which was new less than five years ago has now become a near-necessity in conducting business and providing services to customers and clients in many industries. Businesses are seeking mobile applications to support sales and service, and a large number of individual and corporate application developers have stepped in to develop this young industry. With only five short years of data and history, developers have little to build on in developing business models. Noting that the status quo did not seem to adequately address the needs of mid-size business, Santiago Jaramillo, then student at Indiana Wesleyan University, created a company to fill this void, BlueBridge Digital.
2. Company History

Jaramillo’s company initially started in 2011 with a similar model to most existing mobile application development companies. That is, BlueBridge solicited clients, met with the client to determine need, sold a custom mobile application, developed the product, and charged a fee for that product. Meeting the demands of mid-size businesses, these applications were typically sold for above $10,000 but substantially under the $90,000 price of higher-end development firms as estimated by a noted CEO on the website Mashable around the time of Jaramillo’s startup (Maxwell, 2011).

BlueBridge’s success corresponded with Indianapolis’s hosting of the Super Bowl in February 2011. At this time, BlueBridge developed several popular tourism applications for the visitors pouring into the Indianapolis area. With applications focused on eating and going out, BlueBridge made sure Indy’s visitors had access to all the information relevant to life outside of the stadium that they needed, and the company was rewarded with high download rates during a peak tourism period. At the same time, Jaramillo’s company was also developing its first application of what would eventually become its own brand, Visit Kokomo. This app garnered national attention from the likes of the Huffington Post, praising the far-northern
Indianapolis neighbor for its use of a mobile application to help capitalize on the surplus of visitors to the state’s capital (“Cities roll...,” 2011).

While the immediate reward of large-sum payments was immediately gratifying, custom application development presented several problems. (1) The work itself was time-consuming. Building a custom application platform required large numbers of labor hours put in from the technical developers. (2) The model provided large-sum revenue, but not stable revenue. New clients had to be landed for any cash to come into the business. (3) The client received a one-off application with no support to adapt and service the product to the changing needs of mobile application platforms. Apple is expected to release it’s seventh mobile operating system since 2007 in 2013, for an average life span of less than a year (“iOS 7 Release...,” 2013).

By consciously making a choice to shift the revenue of the business, Jaramillo led his company through a radical shift, from selling a product to selling a service. While the idea of Software as a Service (SaaS) had been pioneered by some technology companies for traditional software, this model had yet to be applied to mobile application development at the mid-market level. This new model meant that instead of selling a single application to a client, BlueBridge would focus on selling subscriptions to mobile applications hosted by BlueBridge through a major mobile application distribution platform. This subscription would include the
development of the mobile application for no upfront cost. To enable such a low-
cost buy-in from prospective clients, BlueBridge sought market niches where a
single mobile application platform could serve the needs of several clients.

Building on their experience with Visit Kokomo, BlueBridge saw the potential
for the implementation of a similar application model suitable for many Convention
Centers and Visitors’ Bureaus (CVBs) across the country with very little technical
work in redeveloping the application platform. Instead, new information relevant to
the client simply had to be inserted to an existing and proven platform. As such,
BlueBridge’s first vertical niche of tourism became its sales force’s main focus.
Under Jaramillo’s direction, custom application sales were stalled or avoided while
subscription clients were sought. Although this meant foregoing immediate
revenue, Jaramillo saw this strategy as the long-term key to success due to its ability
to share costs across clients all using a single platform and ensure continuous
revenue.

Jaramillo cites this transition as the most challenging obstacle BlueBridge has
overcome. So challenging, in fact, that a unique and bold solution became
necessary. BlueBridge incorporated a new subsidiary, VisitApps, whose sole
responsibility would be the sales, development, and distribution of tourism-minded
mobile application subscriptions for CVBs. This distinction allowed for a separation
between the sales philosophies and mechanisms required for subscription service versus custom products.

3. Industry Overview

As Apple’s App Store, the first major public marketplace for mobile applications, only launched in 2008, this branch of software development is relatively new and still has many unknowns. In mobile application development, implementation and distribution seem to be of defining importance for VisitApps.

As detailed above, the traditional model for the development of such applications uses a perpetual-license with a single up-front cost. That is, the developer sells the application to the company as a product that the company then delivers to its consumers through a mobile application distribution platform like Apple’s App Store or Google Play. However, increasingly common are Software as a Service (SaaS) models which forego the perpetual-license for monthly or annual licensure. Typically, SaaS is thought to refer to applications which are hosted via cloud computing. However, for mobile applications—as separate from desktop computing or other softwares—initial hosting is nearly always done via the mobile application distribution platform to then be downloaded to mobile devices. As such, that specific element of SaaS business models does not hold as relevant for mobile applications. More important is the model of transaction between developer and
the purchasing company. Note, the purchasing company is different than the customer, the individual consumer who will eventually download the application on his or her mobile phone or tablet.

In SaaS for mobile application, the developer charges annual or monthly subscription fees and monitors and distributes the application through the larger mobile distribution platform. Doing so offers the purchasing company some distinct advantages in (1) ongoing support in a constantly changing technology environment and (2) often lower overall development costs for the purchasing company. The *Economist* states simply, “SaaS is quicker, easier and cheaper to deploy than traditional software, which means technology budgets can be focused on providing competitive advantage, rather than maintenance” (2006, p. 61).

The ongoing support is crucial, as mobile applications must develop to meet the demands of evolving mobile operating systems. Beyond standard support, research indicates the overall quality of SaaS higher than traditional perpetual license software. One researcher concludes, “The increased investment in software quality yields higher software quality and higher social welfare under SaaS” (Choudhary, 2007, p. 158). Specifically, the foundational structure of SaaS software is implemented across more companies, providing more data for feedback and quality control, and the mobile vendor uses the recurring revenue provided by subscriptions to respond to this live data and constantly improve the software.
The lower costs can often be provided because, unlike custom perpetually licensed applications that have single clients (or tenants), subscription apps are developed for many tenants. Tenant seems to be an appropriate word as the developer creates an app that fits the general need of an industry or group of companies for which companies can pay a fee to utilize and customize that space for some time. Because the development cost for the general structure of the application is spread over the tenant pool, the overall cost to each purchasing company is diminished. With such a low barrier of entry and an application designed to meet the needs of an industry rather than a single company, the scalability is high. This adds specificity to a mobile application developer’s customer pool and decreases the time necessary to implement an application for each purchasing company.

The mobile application industry, including revenue from downloads and in-app purchases, is incredibly large—over $30 billion since 2008 according to ABI Research (“Cumulative Mobile...,” 2012). Gartner Research indicates the mobile application development industry to be equally as impressive in scale and growth, grossing an estimated $9.05 billion in 2012 and expected to top $10 billion by 2016 (“Market Trends...,” 2012). With such a large part of e-commerce shifting to mobile applications, companies have a high incentive to seek mobile application developers who can provide timely and reliable products.
VisitApps specifically serves the CVB industry, a subset of the tourism industry. While some of the largest CVBs have developed custom applications through software firms, the high upfront costs of mobile applications have priced most CVBs out of the market. However, SaaS options with no implementation fees are changing this paradigm in the CVB industry and others.

4. Market Overview

While CVBs have not embraced the mobile application on a broad scale, the tourism and CVB industries are migrating their services from the Convention Center and print brochure to electronic and mobile solutions. The individual and information oriented nature of Internet communication favor the high service industry of tourism. Moreover, emerging evidence indicates a specific consumer preference for mobile applications. A TripAdvisor study found that 60% of mobile device users have downloaded travel apps (“TripAdvisor Survey....,” 2011).

However, CVBs and VisitApps only represent one specific vertical market of BlueBridge Digital. The data concerning mobile application usage and consumer preference over mobile web is astounding. In June 2011, according to a Flurry, an application service company, mobile application usage overtook traditional desktop web usage for the first time (Newark-French, 2012). By December of the same number, mobile outpaced traditional web in usage by 30% (Newark-French, 2012).
Moreover, comScore reports that by May 2012, mobile application usage has outpaced mobile web browsing ("comScore Reports...," 2012).

With such a high customer demand for mobile applications, but their relatively high implementation expense, many companies are still behind in providing a quality application experience to their customers. This is true in many industries, not just tourism. As such, BlueBridge continues to look for niche markets wherein a single application platform can be developed to meet the needs of several clients. BlueBridge has already incorporated CollegeApps, a brand that provides solutions for college sports and university information. Because of its ability to create new verticals and the overall lack of applications in many industries, BlueBridge has an incredibly large market of potential consumers.

5. Suppliers

BlueBridge does business in the e-commerce space, requiring technical support and management but little else in the way of raw materials, real estate, or labor. From a technical standpoint, BlueBridge cuts cost by developing once. According to Aaron Gurin, a technical advisor for BlueBridge, “By leveraging the Titanium Mobile Development Platform, BlueBridge is able to write an app in a single JavaScript-based SDK to create rich native mobile apps for a variety of platforms including iOS, Android and HTML 5” (Gurin, 2013). Titanium is able to take
advantage of both native functionality and also cloud based architecture providing a scalable framework for delivering the latest content straight into the app. Titanium further helps to speed up development by providing an extensible framework to write once and run everywhere. Titanium exports into native code for each individual platform so there is strong native functionality and feel along with native performance. Gurin notes, “All of this can be accomplished with up to 90% code reuse” (Gurin, 2013). The JavaScript foundation of Titanium requires only one development team compared to running either two development teams, for iOS and Android, or one team that has to develop the app twice. “Simply stated,” Gurin concludes, “Titanium accelerates development, adoption and innovation allowing developers to create leading mobile apps” (Gurin, 2013).

Because BlueBridge employee’s work across the country without the need for offices, the company spends nearly the entirety of its overhead on talent—specifically in sales, marketing, and technology support. In combination with the reduced development costs through Titanium and the scalability of their SaaS model, BlueBridge keeps costs relatively low.

VII. Competitors

The unique nature of the mobile application development creates an interesting competitive landscape. Developers of all sizes do exist, from large
software firms that service billion-dollar revenue companies to tech startups and even individuals across the country doing small, contractual work. However, BlueBridge rarely competes directly with other developers because of several reasons. (1) Most developers offer different services that utilize ground-up development and little to no integrated support. (2) BlueBridge and its subsidiaries work in the middle market seeking clients too large for individual developers and too small for large firms. (3) BlueBridge works in markets that have not yet implemented mobile applications on a large scale.

Because of these factors, BlueBridge, VisitApps, CollegeApps, and future vertical brands face a larger competition from the mobile web than from other developers. That is, a company looking at spending money to increase its mobile presence is more apt to see the decision as one between mobile applications and other solutions including mobile web rather than one between mobile application developers.

The mobile web presents a few key advantages over mobile applications. In fact, at one point in time, albeit 2007, Steve Jobs, the noted late CEO of Apple, saw the mobile web as adequate for meeting the needs of the average consumer without the need for third-party application development (Markoff, 2007). Paying to host and maintain a mobile website is typically cheaper than a mobile application—especially the ground-up development of an app. Further, the web is more open
source than applications. That means that changes in technology are less likely to harm the web product than a mobile application. For example, a mobile operating system update is much more likely to interrupt the usage of a mobile application than a mobile website.

However, BlueBridge is poised to counter these advantages of the mobile web. Firstly, because BlueBridge utilizes scalability across a market, spreading out the ground-up development cost, BlueBridge drastically increases the affordability of mobile applications, making the cost much more competitive with mobile web. Further, BlueBridge operates on a subscription service, ensuring that BlueBridge's mobile technicians will provide seamless updates and supports for the tightly controlled and constantly evolving world of mobile operating systems and hardware on an ongoing basis.

In combating its main competitor, mobile web, BlueBridge has worked to provide a unique and powerful set of advantages. However, competitive advantage is not limited to BlueBridge's model and capabilities. Consumer opinion seems to be shifting toward applications as well. The clunky nature of browser interface on mobile phones and tablets compared to the more intuitive and powerful interfaces of mobile applications has led to a domination of application computing on the mobile market.
VIII. Current Strategies

In sum, BlueBridge is utilizing five major strategies to increase its sales in the mobile application development market. (1) Capitalize on the consumer shift toward applications from mobile web (2) SaaS providing recurring revenue (3) Low overhead primarily spent on talent (4) Branded verticals meeting the needs of specific untouched markets

IX. Future Strategies

BlueBridge can increase revenue through either increasing sales in existing verticals markets or developing and implementing applications in new verticals. BlueBridge intends to pursue, and should pursue, both options for increasing revenue. However, either option faces the obstacle of time. While many companies have not yet developed mobile application solutions for their customers, this is changing. BlueBridge and other developers are filling this void. Soon, BlueBridge will be competing more against other developers than against other technologies, and if the rapid scale of market adoption of mobile applications is an indication, this shift will take place soon. It is in BlueBridge's best interest to saturate all of their existing markets and create new ones before mobile applications become the primary mobile solution for companies. Doing so will put BlueBridge at a distinct advantage as a mobile developer in a quickly cluttering field.
X. Implementation in Developing Economies

While BlueBridge currently only serves clients in the United States, it can be used as a model for the developing world, which typically adopts technologies after westernized countries at certain intervals depending on the country and technology. This pace, however, has been quickening. Mobile usage—and even mobile smartphone usage—is increasingly pervasive in developing economies. In January 2013, Apple CEO Tim Cook projected that China would become its largest market (Riley, 2013). Flurry estimates that smartphone and tablet use in China surpassed that in the United States by the end of February 2013 (Farago, 2013).

As companies in these countries begin to adapt to their consumers preferences, much like in the United States, they will need to begin offering mobile application solutions, requiring developers. Because scaled and rapid integration will be important in this transition, it seems as though BlueBridge’s model may be beneficial to developers in these expanding markets. However, this will not be without challenge. Wang and Hong note, “China has been successful in its reform and opening in its economic system, but technology system and social system are two other system with mutual interaction among each other [sic] (Wang, Hong, 2012, p. 91). So, while China’s successfully developing economy is producing
consumers that utilize mobile technology, its technology environment may not grow at a pace to meet the consumers’ changing demands.

Specifically, Wu, Liang, and Yu found deficiencies in the ability of Chinese firms to control quality and concluded, “quality management should be attached more importance to in [sic] promoting more holistic technology management capability” (Wu, Liang, Yu, 2013, p. 21). The SaaS model on which BlueBridge has developed its vertical brands might serve to solve this problem for Chinese organizations by outsourcing quality management away from larger and more stagnant Chinese software firms to small and capable SaaS mobile application vendors that capitalize on the unique software quality advantages of SaaS.

Work regarding the mobile video sphere by Chen, Li, and Chu, however, suggests China may be ready for models like BlueBridge. Based on interviews, they conclude, “there is a strong desire for innovation among Chinese enterprises, especially those from small- to medium-size companies” (Chen, Li, Chu, 2011, p. 228). Further, they indicate that China may be interested in breaking from an imitation model for software development to an innovation model (Chen, Li, Chu, 2011, p. 228). While following BlueBridge’s model specifically would be imitation, utilizing SaaS for scalability of mobile application implementation at the front-end of the mobile evolution in Chinese markets would represent a distinct deviation from imitation patterns in mobile technology.
Further, BlueBridge may be useful in addressing several other problems facing technology entrepreneurship in China. Petti and Zhang outline problems in “institutional factors; the scarce mobility of key R&D personnel and technicians... or their excessive mobility” as key problems in China’s technology industries. SaaS firms might best combat this. Because workers for several technology implementation projects are centralized in SaaS firms, their scarcity becomes an advantage, allowing capable technicians to service more clients through scalability.

However, Petti and Zhang also cite “weak or uncertain protection of intellectual property and contract law enforcement” as among China’s most pressing technology problems. This may pose a problem to small, SaaS mobile application vendors in developing economies as firms modeled after BlueBridge would lack the legal support and governmental connections of larger firms, but SaaS firms do have the collective support of their clients. Perhaps through innovative legal structures or via a legal subscription surcharge that spreads legal service bills across clients, mobile application vendors will have to address the complexities of such systems.

One further deviation from BlueBridge's success is the specific nature of the tourism industry in China. VisitApps, BlueBridge's first scalable success utilizes an in-bound tourism market, but Zhuang, Qiu, and Peng note China's industry is mostly outbound. “For the top operators, the outbound tourism business generates
the most revenue and naturally employs the largest number of staff” (Zhuang, Qiu, Peng, 2011, p. 73). So far, BlueBridge's apps have focused on information services, providing CVBs a way to communicate with tourists or colleges a way to communicate with fans. Outbound tourism is more directly focused on sales than information or service. BlueBridge has not yet developed a scalable commerce-focused application, but such a venture would neither be incompatible with its business nor technically impossible. It is worth noting, however, that such a leap in mobile, mid-market scalability has not been proven in American markets and will take innovation in both Western and Eastern markets for implementation. The tourism industry is not BlueBridge’s only market, and this specific difference only represents a small deviation in implementation of BlueBridge’s business model in China or other developing economies.

XI. Conclusion

BlueBridge's model is still relatively untested in U.S. and western markets, but it shows major signs of success via its innovations in development, implementation, and sales of mobile applications. The balance it strikes between scalability and customization for clients is an encouraging new standard for mobile vendors. As BlueBridge continues to grow, Chinese and other developing economies may look to SaaS, scalable development models to meet the high
demand for mobile applications in an increasingly mobile-oriented market. Developing economies will present unique hurdles to SaaS structures like BlueBridge’s, but it still provides distinct answers to many of China’s gravest technology implantation and innovation problems.
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