State of the App Economy

4th Edition



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Background | Unicorns & Pots of Gold

In existence less than a decade, the app industry has experienced explosive growth alongside the rise of smartphones. As the most rapidly adopted technology in human history, these devices revolutionized the software industry.

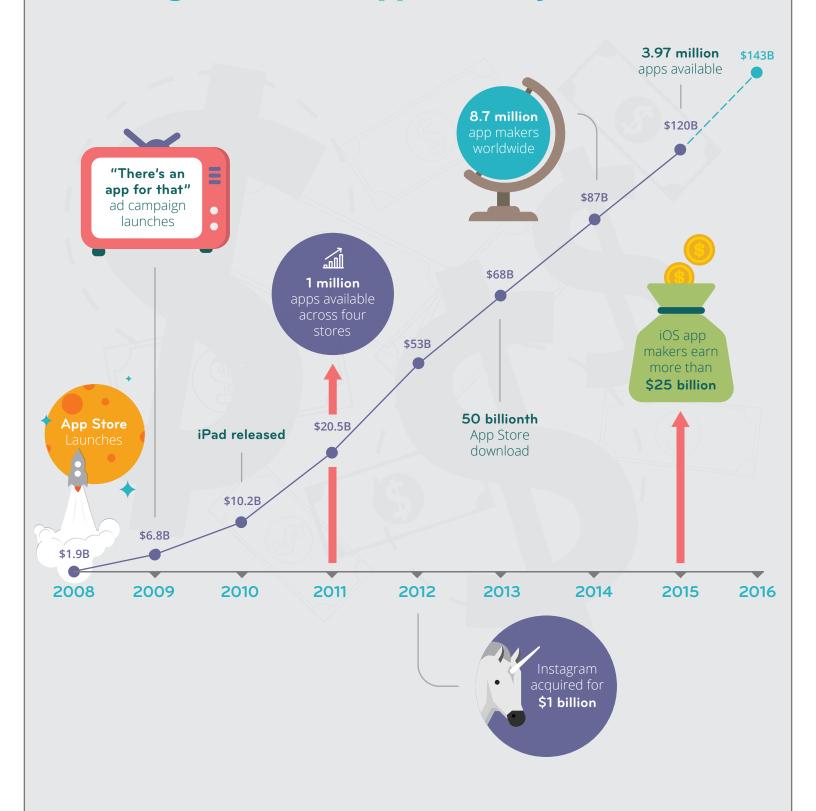
Historically, independent software companies faced steep barriers to entry. Much of their revenue opportunity derived from adding features to existing software products. The introduction of the App Store model changed everything. It allowed developers to create products marketed directly to consumers.

No longer burdened with distribution or processing payments, entrepreneurs today face far fewer obstacles when building a company around an idea. Internet access and the ability to code is all that's needed.

The simplicity of the app marketplace has produced an incredible wave of innovation. A new class of entrepreneurs has emerged who are young in age, but confident and brave enough to believe their ideas can change the world. The intensity of their work ethic matches their desire to succeed.

This success looks different than in almost any other industry. Small companies can scale and grow quickly from any region of the world. Even though the App Economy is less than a decade old, it has produced an astonishing number of companies valued, or acquired, at a billion dollars or more.

Eight Years of App Economy Growth





Summary | Mobile-First Defines Success

Shortly after the Apple App Store launch in 2008, "mobile-first" became the favorite phrase of marketing strategists and forward-thinking CEOs. Retailers like Nordstrom traded cash registers for iPhones and iPads while online properties scrambled to establish a mobile presence. Expectations for the marketplace were so high that Facebook's stock price stumbled after IPO over concerns about mobile revenues.

Fast forward eight years and mobile-first describes market leaders. There are now multiple app stores on different platforms including those from Microsoft, Google, and Amazon. Consumers spend more time on mobile apps than browsing the internet¹ or watching TV.² They are 18 times more loyal to brands on an app than on the mobile web.³ And Facebook's stock has risen over 500 percent as three-quarters of its revenue now comes from mobile.

For the first time, the majority of consumers are turning to mobile devices to shop.⁴ During Thanksgiving week 2015, shoppers spent more than \$2.29 billion on mobile devices.⁵ Even when customers shop in physical store locations, more than half are using their smartphones to research prices.⁶

The State of the App Economy is strong. This \$120 billion ecosystem is led by U.S. companies, the vast majority of which are startups or small businesses. These companies are from everywhere, in communities urban and rural.

As the App Economy continues to grow, so too does the job market. App companies are succeeding in every region of the country, hiring developers, marketers, engineers, and experts in business development and human resources.

State of the App Economy: Top App Companies



Location | Top Apps Succeed Everywhere

Needing only an internet connection and the ability to code, app makers can succeed anywhere. App stores require very little overhead in return for global distribution, transaction management, and a marketing platform.

In the United States, the vast majority of successful app companies are found outside Silicon Valley. Many even choose to operate outside major metropolitan areas.

13% of top app makers are in rural areas

of top app companies are outside Silicon Valley

The ease of entry in the app marketplace has led to dramatic growth outside traditional tech centers. Innovation in the mobile economy is no longer bound to major metropolitan areas or regions historically connected with the tech industry.

Many app companies have found that they don't need to relocate to find success, preferring the quality of life that comes from starting a business in familiar surroundings like Eugene's Silicon Shire⁷ and Cedar Rapids' Silicon Prairie.⁸

App Companies Prosper Across America



Scholly

Connects high school students with college scholarships



Craftsy

Virtual craft classes for more than 5 million customers



Headspace

Guided meditation for 3 million users in 150 countries



Higher Learning Technologies

Mobile study tools for over one million users



The Omni Group

Productivity tools to organize work flow and to-do items



HotSchedules

Labor management tools for the restaurant industry in 26 countries



Size | Small Companies Making it Big

Small companies and startups have thrived in the mobile marketplace. They dominate the revenue rankings and drive innovation in the mobile economy.

The App Store model is the ideal platform for small companies. Their size allows them to be nimble and respond quickly to market opportunities. Since the store manages distribution, payments, and security, a startup can focus almost all of its resources on software development.

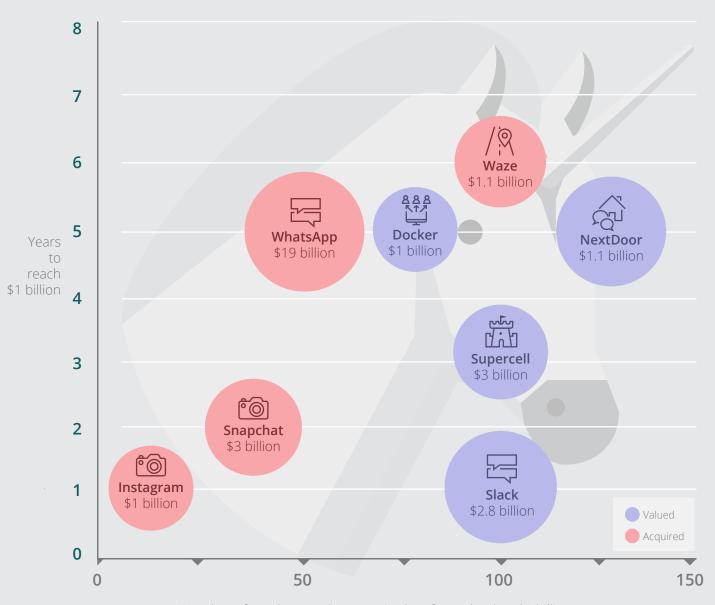
82%
of top app makers are small companies

This ease of publishing contributes to dramatically shortened development cycles.

Providing automatic software updates, the App Store enables continuous product improvement. Rapid iteration extends value to users who are more likely to be engaged with an app that evolves to fit specific needs.

These characteristics have fueled astronomical growth. A decade ago, it was inconceivable for companies to reach a billion-dollar valuation in less than five years. In the App Economy, that has become common enough to spawn the term "unicorn." For small companies, the app marketplace provides the ideal environment for rapid growth and innovation.

From 0 to \$1 Billion with Fewer than 150 Employees



Number of employees when acquired, or first valued, at \$1 billion or more



Jobs | App Growth Sparks Hiring

The nature of the App Economy means that companies can start anywhere and scale quickly to meet consumer demand. This decentralization has helped the app industry thrive.

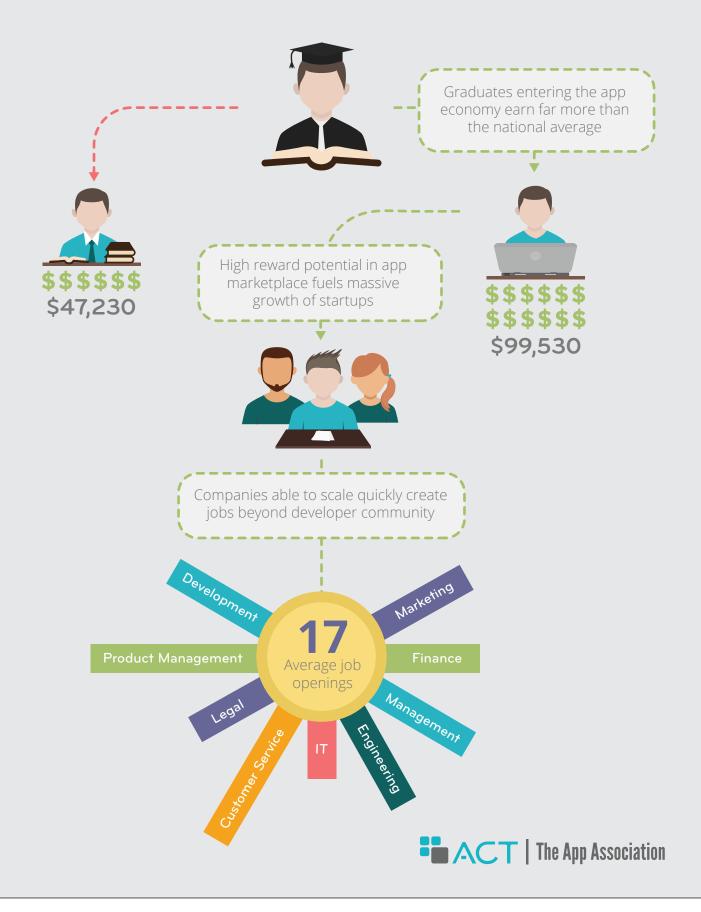
As the industry continues to expand, demand for software developers and engineers is becoming increasingly competitive. Accordingly, these professions are among the best compensated and most rewarding.⁹ In addition to pay, employees cite work environment, benefits, and abundant opportunity as the most attractive features.

Creating a successful app has a broad impact on the job market well beyond traditional tech positions. As an app begins to generate momentum, small teams soon discover they need specialists in marketing, management, business development, and customer support.

A company that recently experienced this growth process is Slack, a productivity app that acquired 1.7 million users before its second birthday. To serve its increasing customer base and enable continued growth, Slack is expanding its workforce across seven different specialties including marketing, customer service, and management.

Job creation in the app industry is occurring in regions all across the country. Nearly three-quarters of these openings are based outside Silicon Valley.

App Economy Creates Job Ecosystem



Health | Better Living Through Mobile

Connected technology is poised to dramatically reshape the healthcare landscape. New regulations to manage costs are spurring innovation. Healthcare providers must now shift from fee-for-service to value-based payments, and the resulting incentives favor outcomes more than procedures. This transition significantly elevates the value of connected health data that comes from remote patient monitoring, chronic condition management, wearable sensors, and apps.

Atlanta-based Rimidi is one company showing the path forward with its Diabetes+Me app. The company's clinical studies demonstrate that it can produce better patient outcomes at reduced cost. Goldman Sachs projects that connected health solutions like Rimidi's will reduce healthcare costs by \$305 billion.

Even the side benefits of connected health are astonishing. Apple recently introduced ResearchKit to connect medical researchers with volunteers who want to share health data for scientific study. The platform provides no direct revenues for Apple, but it's revolutionizing how studies are conducted and accelerating the progress of medical research.

In just 24 hours after its introduction, 11,000 iPhone users signed up for a Stanford cardiology study. Before ResearchKit, that level of engagement would have required 50 medical centers to each spend an entire year finding volunteers.

We have only seen the tip of the iceberg with connected health, but it's clear this technology will have a profound impact on our society. As more studies emerge demonstrating its role in improved health outcomes, industry growth will be substantial and swift.

Connected Health Market Poised for Growth

\$117 billion

connected health market by 2020

Source: MarketResearch.com, Modern Healthca

Top Opportunities

For: Connected Health Companies

Date: 2016

1. Chronic Condition Management

2. Personal Fitness & Wellness

3. Remote Patient Monitoring





of clinicians say mobile apps central to patient health by 2020







Trade | Local is Global in Mobile Market

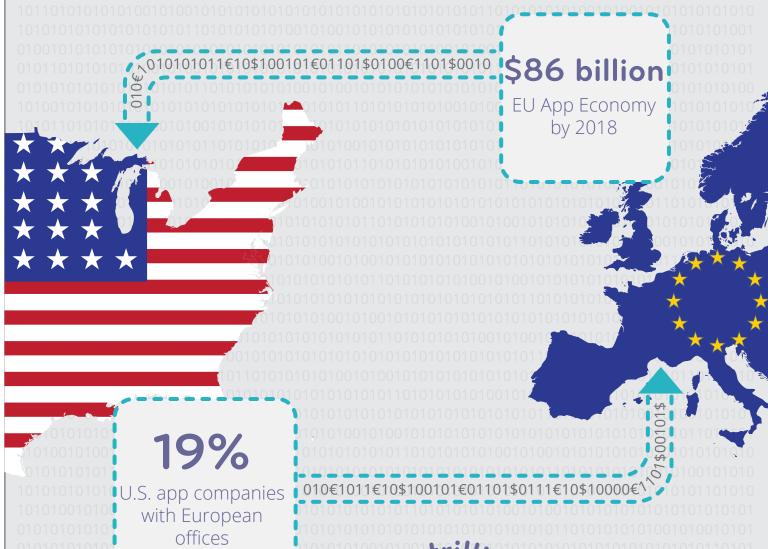
As the biggest digital trade partner for the United States, Europe and the U.S. are inextricably linked. Nearly one-fifth of the top grossing, U.S.-based app companies have operations in Europe. These offices and work spaces are dedicated to serving users throughout the global marketplace. Expansion of American app companies abroad creates jobs in these new markets while also providing essential tools for international enterprise customers.

The emergence of the app store model and the proliferation of cloud services has allowed small app companies to access overseas markets. In the mobile marketplace, app stores use the cloud to connect app makers with customers around the globe while managing transactions in many different currencies. Cloud-based resources also allow early stage companies to scale swiftly to meet demand in a global marketplace.

With fewer than 100 employees, app company Headspace covers two continents with offices in Los Angeles and London. First launched in 2010, the app now serves three million users spanning 150 countries. A top ten health app in dozens of countries, Headspace's rapid growth was fueled by unrestricted, cross-border data flows that allow emerging companies to reach more customers.

Europe will continue to provide opportunity for American companies. By 2018, app makers are poised to earn more than \$85 billion in the EU marketplace.¹²

Digital Trade Critical to App Industry





The App Association

Methodology

ACT | The App Association surveyed more than 500 top grossing apps across a range of categories in the Apple App Store and Google Play, the two largest app markets. A detailed analysis was conducted on each publisher to determine the greatest influences on growth and success in the app economy.

For the purposes of this study, the small company designation coincides with the Small Business Administration's Table of Small Business Size Standards Matched to North American Industry Classification System Codes.

This report was conducted using publicly available data from the Apple App Store, Google Play, government agencies, company statements, and industry publications.



ACT | The App Association represents more than 5,000 app makers and connected device companies in the mobile economy. Organization members are industry leaders and new entrants innovating to improve productivity, accelerate learning, deliver entertainment, and promote healthier lifestyles.

ACT | The App Association regularly conducts research and publishes reports on the mobile ecosystem. It is the leading resource on app industry growth providing guidance on market strategy, global commerce, regulated industries, privacy and security, and intellectual property.

End Notes

¹ Lipsman, A., "Major Mobile Milestones in May: Apps Now Drive Half of All Time Spent on Digital," comScore (June 25, 2014). Available at: http://www.comscore.com/Insights/ Blog/Major-Mobile-Milestones-in-May-Apps-Now-Drive-Half-of-All-Time-Spent-on-Digital

² Khalaf, S., "Mobile to Television: We Interrupt this broadcast (Again)," Flurry (November 18, 2014). Available at: http://flurrymobile.tumblr.com/ post/115194107130/mobile-to-television-we-interrupt-this-broadcast

³ "The 2015 U.S. Mobile App Report," comScore (September 22, 2015). Available at: https://www.comscore.com/Insights/Presentations-and-Whitepapers/2015/The-2015-US-Mobile-App-Report

⁴ "Adobe Data Shows 76 Percent of Online Holiday Sales Will be Spent on 1 Percent of Product SKUs," Adobe (October 25, 2015). Available at: http://www.adobe.com/newsroom/pressreleases/201510/102915AdobeHolidayPredictions2015.html

⁵ "Live U.S. Retail Data," IBM Benchmark Live (Accessed December 4, 2015). Available at: http://ibmbenchmarklive.mybluemix.net/?cm_mc_ uid=24867024833814083668469&cm_mc_sid_50200000=1448040836#/home

⁶ "IAB Digital Shopping Report," Interactive Advertising Bureau (November 2015). Available at: http://www.iab.com/insights/digital-shopping-report-guide-to-mobiledevices-and-holiday-shopping/

⁷ Buri McDonald, S., "Technology conference coming to UO campus," The Register-Guard, syndicated by Styrk (August 25, 2015). Available at: http://www.styrk.com/posts/technology-conference-coming-to-uo-campus

⁸ Ford, G., "lowa Startup Accelerator gets national award," The Gazette (September 14, 2015). Available at: http://www.thegazette.com/subject/news/business/iowa-startup-accelerator-gets-national-award-20150914

⁹ "Best Technology Jobs: Software Developer," U.S. News & World Report (Accessed December 17, 2015). Available at: http://money.usnews.com/careers/best-jobs/software-developer

"Occupational Employment Statistics: 15-1132 Software Developers, Applications," The Bureau of Labor Statistics (May 2014). Available at: http://www.bls.gov/oes/current/oes151132.htm

¹⁰ Valenzuela, L., PharmD BCACP et al., "Early Results Support Efficacy and Clinical Efficiency of Diabetes Management Decision Support Software for Blood Glucose Control," Rimidi (November 12, 2015). Available at: http://www.rimidi.com/news/inside-views/dohc-rimidi-early-results/

¹¹ Roman, D. H. & Conlee, K. D., "The Digital Revolution comes to US Healthcare," Goldman Sachs (June 29, 2015). Available at: http://www.scbio.org/resources/Documents/Internet%20of%20Things%20-%20Volume%205%20-%20The%20Digital%20Revolution%20comes%20to%20US%20HC%20-%20Jun%2029,%202015%5B1%5D.pdf

¹² "Study finds a total of 1.8M jobs in the EU app economy, with €17.5bn in revenues taken in by EU app companies in 2013," Eurapp (February 2013). Available at: http://eurapp.eu/2014/02/13/study-finds-total-18-million-jobs-eu-app-economy-€175-billion-revenues-taken-eu-app

Previous Reports in App Economy Series

WWDC Preview: The iOS App Economy 2015

http://actonline.org/2015/06/04/wwdc-preview-the-ios-app-economy/

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http://actonline.org/2014/10/27/report-state-of-the-app-economy-2014/

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