# Testimony

**of Peter Farago**
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*before the*
Committee on Energy and Commerce
Subcommittee on Commerce, Manufacturing and Trade

*on*

Where the Jobs Are: There's an App for That
September 12, 2012

Chairwoman Bono Mack, Ranking Member Butterfield, and Members of the Subcommittee, thank you for the opportunity to appear before you. My name is Peter Farago, and I am the head of marketing for Flurry, a high-tech start-up based in Silicon Valley. I am here today to speak about the mobile app industry and its impact on the economy.

This report includes the following sections:

I. Flurry, a Silicon Valley Start-Up
II. What is the App Economy?
III. The Golden Era of Mobile Computing: The Fastest Adopted Technology in History
IV. Consumers Embrace the New App Economy
V. Start-Ups Drive the New App Economy
VI. The App Economy Impacts the U.S. and Global Economy

## I. Flurry, a Silicon Valley Start-Up

Flurry is a Silicon Valley start-up that helps mobile application makers build, measure, advertise and monetize their applications. Flurry customers consist of 75,000 mobile application developers (e.g., Apple iOS, Google Android, Microsoft Windows Phone, etc.) and advertisers (brands, marketers, advertising agencies).

The Flurry customer base is comprised of a range of companies with varying resources, sophistication and scale. On the one end, we have ”small businesses” that typically have under a dozen employees, mainly software programmers. In the middle, we have the new, emerging winners of the new app economy, who are navigating how to effectively scale their businesses. And on the other end, we have many of the world’s largest companies (from online, media, consumer packaged goods, manufacturing, communications, and more) who are trying to make sense of the app economy and the opportunities it presents.

Flurry’s deep relationship with its large customer base has given it a unique vantage point on the emerging smartphone and app economy, and the company has often been viewed by industry analysts and market researchers as a credible source of insights into this new emerging economy.

## II. What is the App Economy?

The app economy is comprised of players that help make, distribute and monetize software that runs on mobile computing devices, known as applications, or “apps.” For the app economy to function, we need devices, operating systems, digital stores, network connectivity and software.

In the consumer’s hand is the mobile device (e.g., a smartphone or tablet). On a device is an operating system, which allows the user to interface with and use the device. On top of that we have software, which allows the user to perform specialized tasks with that device, like play games or make a restaurant reservation. This software is developed by “content creators.” Software distribution to consumers occurs in digital stores (e.g., the iTunes App Store), owned by “platform providers” (e.g., Apple). Connecting devices in a way that enables talking, messaging, downloading software and

sending data are network operators such as Verizon or the Internet, where WiFi is possible. For this report, we simplify the app economy, focusing on platform providers and content creators.

### *Platform Providers*

The two major platform providers in the app economy are Apple and Google. Microsoft and Amazon also offer platforms. A "platform" is a market where consumers can acquire software. Apple offers the most complete platform as hardware maker (i.e., Original Equipment Manufacturer, "OEM"), operating system provider (i.e., Apple iOS) and digital store operator (i.e., Apple iTunes App Store). Google serves as an operating system provider (i.e., Android) and manages a digital store (i.e., Google Play, formerly called the Android Market). Google recently completed the acquisition of Motorola and is now considered a device maker. Google continues to support its initial OS distribution strategy by working with OEMs including Samsung, HTC and LG. Both Apple and Google additionally create their own content (e.g., Google Maps) as well as manage advertising businesses: Admob in the case of Google and iAd in the case of Apple. When platform providers create software for their own platform, we refer to this as first-party content.

### *Content Creators*

The key component of the app economy is the software created for use by consumers and companies, the majority of which is created by third-party content creators. Content creators are typically made up of teams of developers and designers who build and distribute what they think people and/or companies will find useful, practical and/or entertaining. This is a particularly vibrant, innovative and entrepreneurial part of the app economy.

### *The Virtuous Cycle*

There is a favorable relationship between platform providers (specifically, the makers of hardware to which software can be downloaded) and content creators that economists refer to as a "virtuous cycle." Starting such a cycle is an expensive, enormous "chicken-or-egg" effort, which is rarely achieved sustainably and at scale within the technology industry. It's a symbiotic relationship where increased sales of hardware help the sales of software and services, which in turn helps further drive hardware sales, and so on. It typically starts with the installed base of hardware (smartphones and tablets), though early, unique content can help significantly "prime the pump." The larger the device install base, the more the content creator will likely support the platform. When the consumer perceives that a lot of additional, value-added content is available on the platform, it makes the

platform more desirable, resulting in more sold devices. This creates manufacturing economies of scale for the hardware maker, which increases profits and enables price reductions. Apple and Google, with their respective smartphone and tablet initiatives, have created the most successful virtuous cycle in the history of technology.

### *Why is this Virtuous Cycle so Special?*

The smart device (smartphones and tablets) virtuous cycle is characterized by rapidly achieved scale, continued hyper-growth and breadth and scale of content. Moreover, we are still early in the cycle of hardware adoption. The new breed of smartphones and tablets are versatile multi-purpose devices that can become radios, gaming devices, TVs, newspapers, magazines, tip calculators, travel reservation terminals, photo editing and sharing appliances, and more, all with the launch of an application. This is in addition to web browsing, messaging, email and other first-party applications that ship with these devices. Single-purpose devices like Garmin GPS devices for driving directions or Xbox 360 consoles for playing video games achieve smaller install bases over time and thus have shorter total lives.

### *Instant Distribution Everywhere*

Enabled by digital distribution across the unprecedented growing base of iOS and Android smart devices, global software distribution has never been so frictionless. After building an application, a development team can distribute its app on Android instantaneously and, after review by Apple, can be in the App Store within a week. With international growth accelerating, there has never been a better time, in the history of technology, to be a software developer. In an age of digital distribution, goods and services can be delivered seamlessly to always-on, connected mobile computers. It's a worldwide 24/7/365 marketplace, the likes of which the world has never seen.

### *Consumers Who Can and Do Spend*

Another key characteristic of the economy is both the consumer's ability and willingness to pay. Unlike the Internet, where consumers inherently believe services should be free, carriers (e.g., AT&T, Verizon, etc.) spent years training consumers that the cost of content in their app stores required payment. As Apple, Google and Amazon began to control storefronts, they kept this same approach. For Apple and Amazon's respective app stores, consumers must have either a credit card or gift card associated with the device. For Google Play, the primary app store for Android, Google continues to drive increased

penetration of Google Wallet, its payment solution. The net result is that the new app economy is made up of consumers who spend money, dramatically increasing the value of this market for businesses.

## III. The Golden Era of Mobile Computing

### *The Fastest Adopted Consumer Technology in History*

Led by Apple and Google, a new breed of smartphones and tablets has changed the landscape for technology innovation, dramatically impacting the economy. Within just five years, platform providers have amassed an install base of nearly 650 million actively used powerful and portable, networked computers. These super-devices extend far beyond the power of what the industry initially called "smartphones" with powerful on-board processors, broadband connectivity and nearly endless storage thanks to innovations in cloud technology. These are the ultimate multi-purpose devices. Consumers are using them in droves, developers are building applications for them en masse and consumer consumptions patterns are changing dramatically. The result is that nearly every sector of the economy is being affected. Flurry estimates that the world is only about a quarter of the way into the adoption cycle of smartphones and tablets. Connected televisions, on which both Apple and Google are working, have not yet been introduced into the mix.

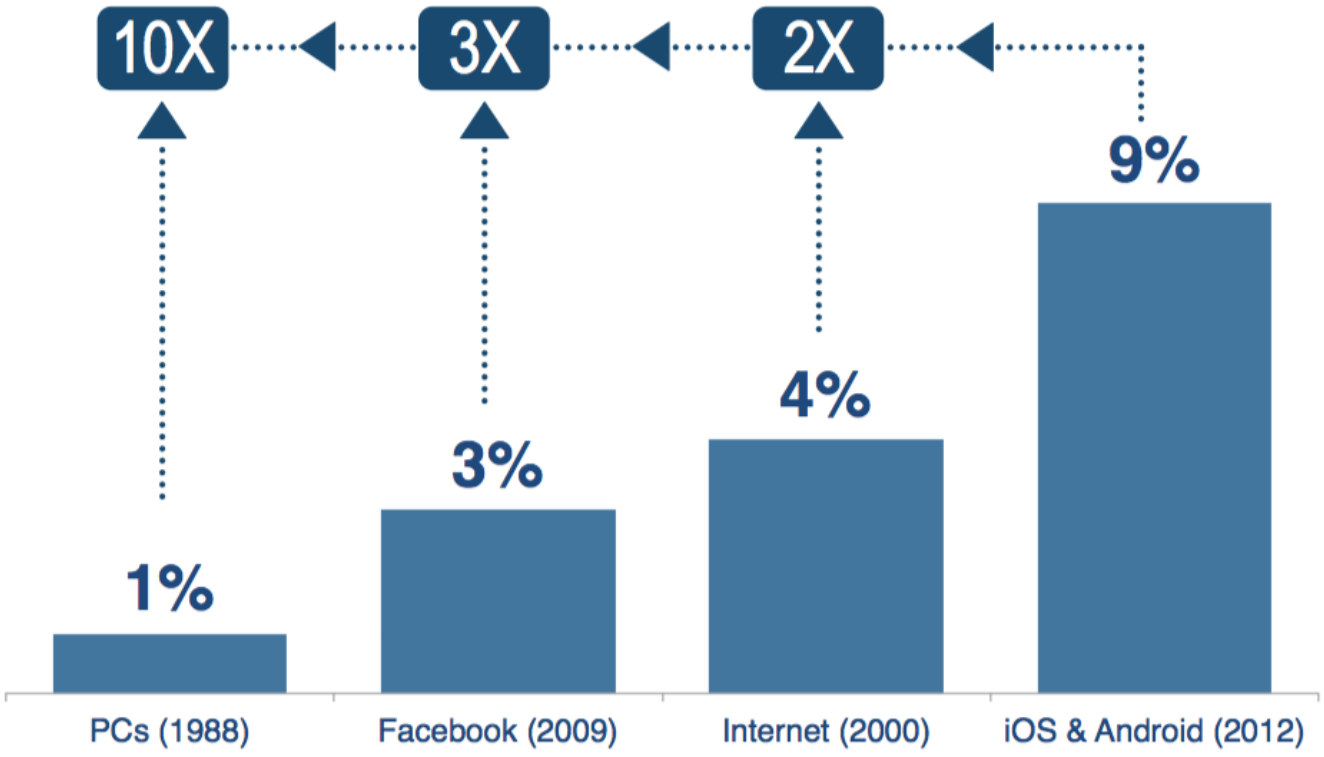


The rate of iOS and Android device adoption has surpassed that of any consumer technology in history. Compared to recent technologies, smart device adoption is being adopted 10X faster than that

of the 80s PC revolution, 2X faster than that of 90s Internet Boom and 3X faster than that of recent social network adoption. Five years into the smart device growth curve, expansion of this new technology is rapidly expanding beyond early adopter markets such as North America, Western Europe and Japan, creating a true worldwide market. This rate of adoption additionally outpaces that of all other notable technologies including electricity, radio, television, VCRs, microwaves, cellphones, dishwashers and more.[1] Overall, Flurry estimates that there were over 650 million iOS and Android devices in active use during the month of July 2012, more devices in use more quickly than any other technology ever created.

**Figure 1**

***WW Penetration of New Technologies, 5 Years After Introduction***




*Sources: US Census Bureau, CIA World Factbook, Flurry*

Please note that we normalize population in the chart above. That is, we use the population from each year in which we calculate penetration.

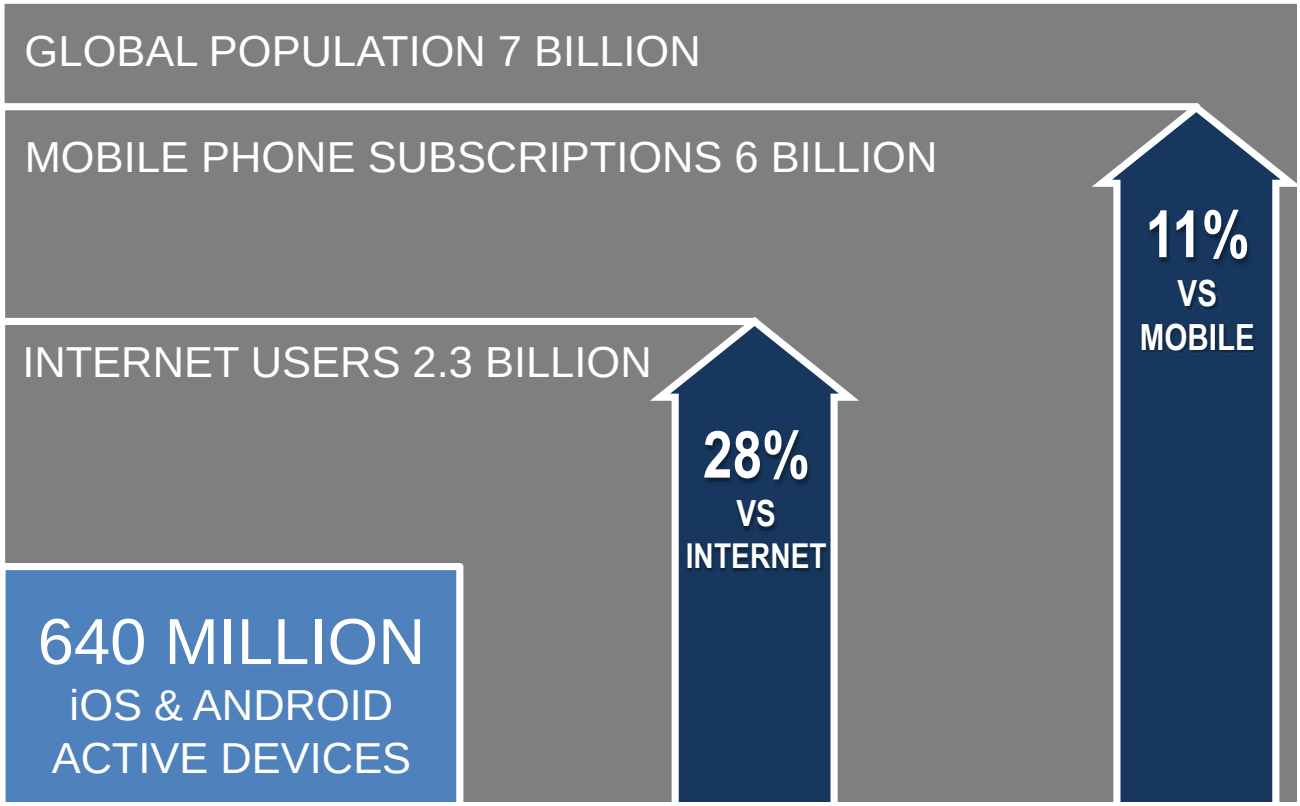
[1] New York Time, Consumption Spreads Faster Today, 2008
http://www.nytimes.com/imagepages/2008/02/10/opinion/10op.graphic.ready.html

### *iOS and Android Already at Critical Mass*

Not only is iOS and Android smart device penetration rapidly gaining on the most established consumer technologies, but also it has reached meaningful critical mass. In just five years, the active user base of iOS and Android devices is more than a quarter of Internet subscriptions, despite the fact that the Internet is nearly a 20-year-old industry. For further reference, the iOS and Android install base is already two-thirds that of Facebook, which currently has 955 million monthly active users.[2] Worth noting is that Facebook is a free service, while each smart device costs hundreds of dollars to purchase and operate. Given that hardware prices will continue to come down, and many emerging economies have leap-frogged over expensive fixed wire installations, we expect the growth of smart devices to accelerate. Below, we show iOS and Android active user bases vs. Internet, total mobile subscriptions and the world's population.

**Figure 2**

***WW iOS & Android Active Install Base vs. Internet, Mobile and Global Populations***




*Sources: US Census Bureau, International Telecommunication Union, Flurry*

[2] Facebook statistics http://newsroom.fb.com/content/default.aspx?NewsAreaId=22

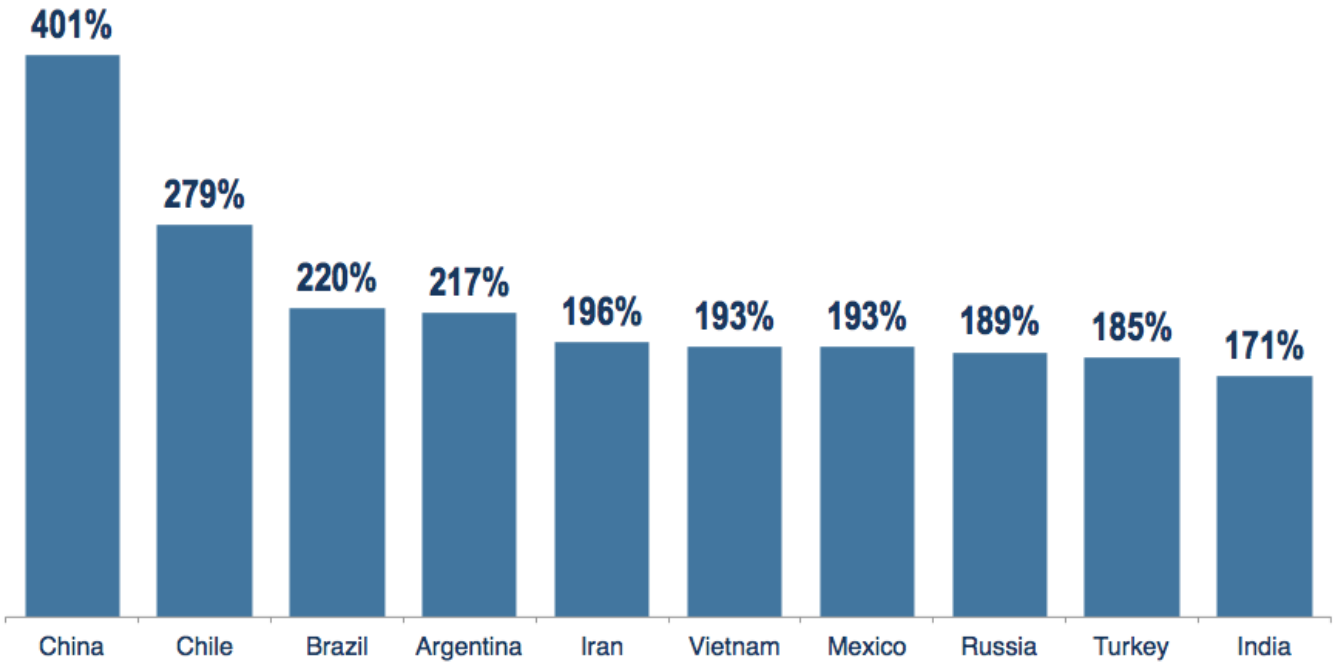
## *A Worldwide Phenomenon*

iOS and Android adoption is spreading internationally, with the international market now making up a larger proportion of the total base, especially as the United States reaches saturation. Flurry estimates that the U.S. has an install base of 170 million monthly users of iOS and Android smart devices, followed by China with 130 million and then the UK with 30 million.

While the U.S. continues to lead the world in iOS and Android install base size, China is rapidly closing the gap. Year-over-year, Flurry calculates that net active devices in the U.S. grew by approximately 30 million, while China saw more than 100 million new active devices enter the market. At this rate, China's active install base could overtake the U.S. as early as the 2012 holiday season.

**Figure 3**

### *Top Countries by Active iOS & Android Devices (percent)*




*Source: Flurry*

The chart above shows the fastest growing iOS and Android markets between July 2011 and July 2012. China leads the world with an astounding 401% year-over-year growth, demonstrating the power of the country's vast population coupled with its rapidly growing middle class. Notably, all four BRIC

countries (Brazil, Russia, India and China) are represented in the top 10-ten growth countries for smart devices, reinforcing their new stage of advanced economic development.

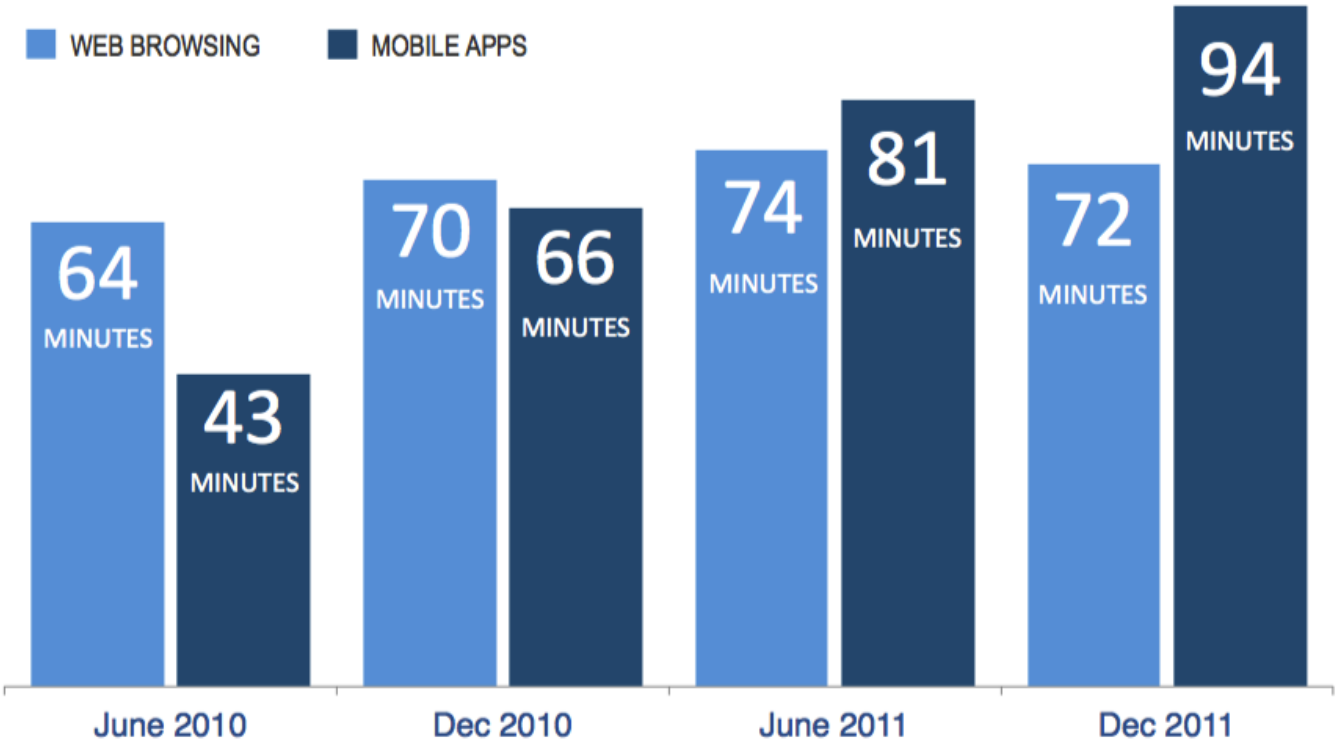
As early adopter markets such as North America and Western Europe mature, Flurry expects continued rapid international expansion. Because America leads with the largest install base, combined with its affluence, its economy is already prospering from the golden age of mobile computing. Looking forward, we expect U.S. exports to climb as the app economy becomes increasingly international.

## IV. Consumers Embrace the New App Economy

The era of mobile computing, catalyzed by Apple and Google, is driving one of the largest shifts in consumer behavior over the last forty years. Flurry estimates cumulative app downloads across the iTunes App Store and Google Play has now surpassed 60 billion. Already, time spent per day by active users in mobile apps surpasses that of Internet users.

**Figure 4**

***Time Spent per Active Consumer Using Smartphone & Tablet Apps, United States***




*Sources: comScore, Alexa, Flurry*

## V. Start-Ups Drive the New App Economy

### *The App Economy Across the United States*

The iTunes App Store and Google Play now offer more than 600,000 apps each. With low barriers to entry for developers in terms of production and distribution costs, the majority of these apps have been created by start-ups. In the United States, these companies are distributed across nearly every state. In a survey conducted for this testimony, Flurry found that the 159 U.S. companies that responded were spread across 33 states.

**Figure 5**

***Distribution of U.S. Based Companies from Flurry Survey***

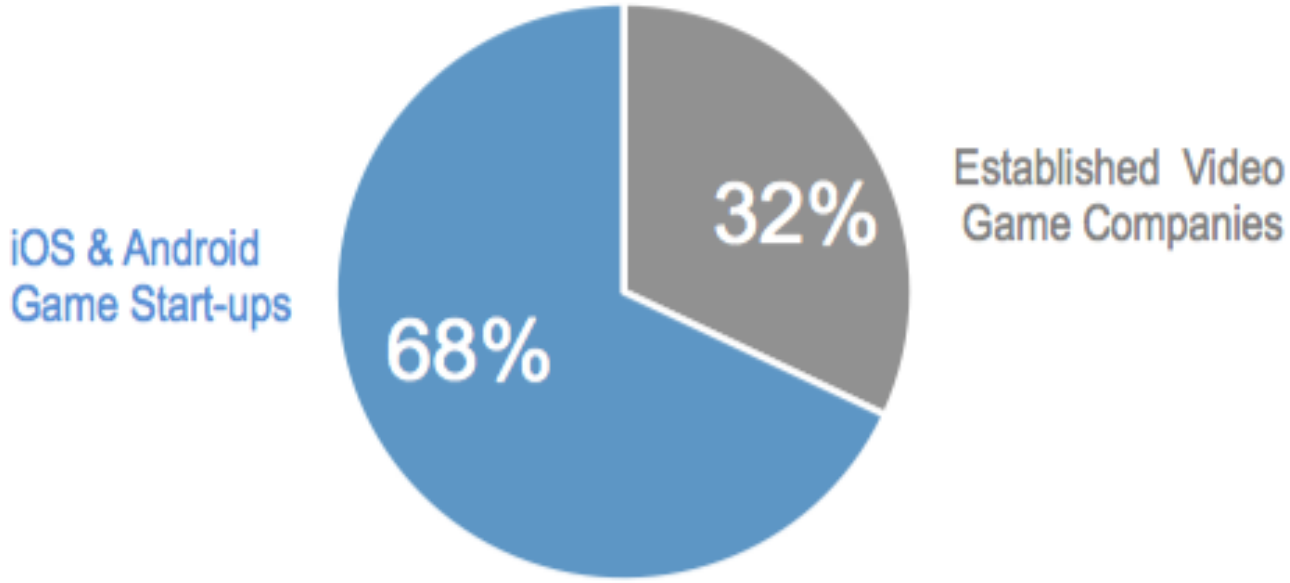
| State | Respondents | % |
|---|---|---|
| CA | 34 | 21% |
| NY | 19 | 12% |
| TX | 10 | 6% |
| PA | 8 | 5% |
| WA | 8 | 5% |
| NJ | 7 | 4% |
| FL | 6 | 4% |
| CO | 5 | 3% |
| MN | 5 | 3% |
| VA | 5 | 3% |
| GA | 4 | 3% |
| IL | 4 | 3% |
| IN | 4 | 3% |
| MA | 4 | 3% |
| MI | 4 | 3% |
| NH | 4 | 3% |
| UT | 4 | 3% |
| NC | 3 | 2% |
| OH | 3 | 2% |
| OR | 3 | 2% |
| AZ | 2 | 1% |
| NM | 2 | 1% |
| CT | 1 | 1% |
| IA | 1 | 1% |
| ID | 1 | 1% |
| KS | 1 | 1% |
| KY | 1 | 1% |
| MD | 1 | 1% |
| MO | 1 | 1% |
| ND | 1 | 1% |
| NV | 1 | 1% |
| VT | 1 | 1% |
| WI | 1 | 1% |
| 33 | 159 | 100% |

### *Start-Ups Thrive in the App Economy*

In an analysis of the gaming category, the largest category on iOS and Android, Flurry found that start-ups who began on iOS and Android (vs. console or Web) outperformed gaming companies, despite established companies' brand power and resources. Games for mobile devices are often designed and monetize dramatically differently, requiring a different kind of business operation and model. They require innovation at much faster rates.

**Figure 6**

***App Sessions, iOS & Android Game Start-Ups versus Established Game Companies***

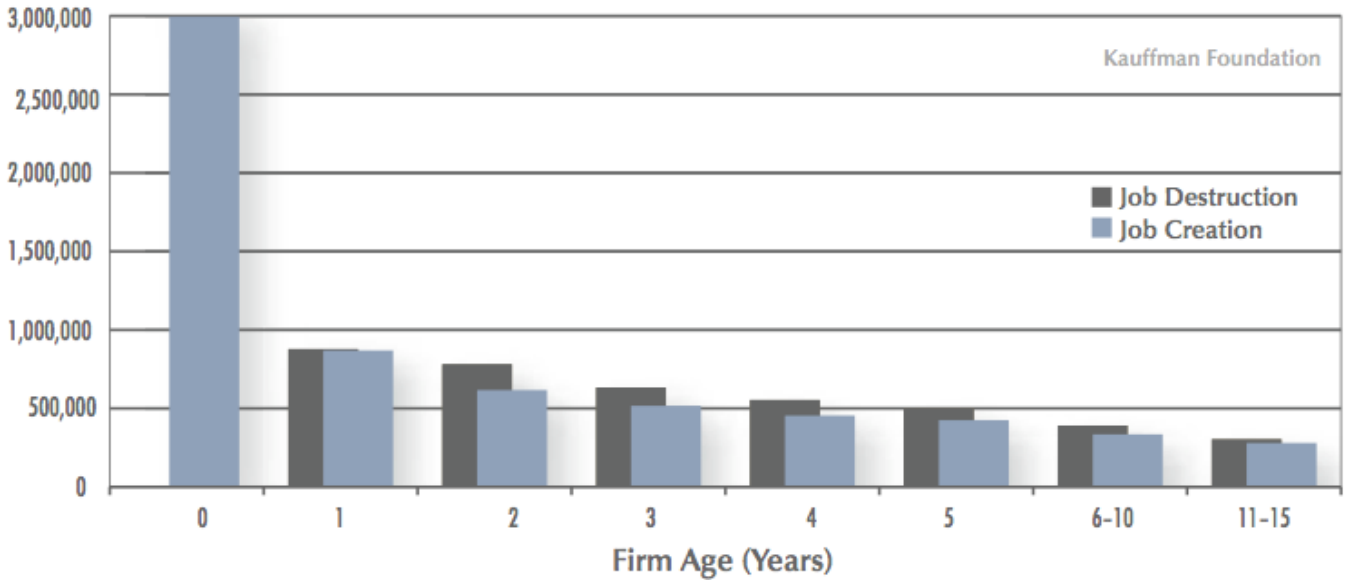



*Source: Flurry*

## *Start-Ups Create Jobs*

**Figure 7**

### *Job Creation and Loss by Firm Age[3]*
### *Average per year, per year-group, 1992 – 2006*




*Sources: Business Dynamics Statistics, Tim Kane*

Recent Kauffman research found that start-ups, as a group, are net job creators during their first year. All other firms combined, one year or older, are net job destroyers. Below is an excerpt from the report.

> *"Startups create an average of 3 million new jobs annually. All other ages of firms, including companies in their first full years of existence up to firms established two centuries ago, are net job destroyers, losing 1 million jobs net combined per year." "…in terms of the life cycle of job growth, policymakers should appreciate the astoundingly large effect of job creation in the first year of a firm's life. In other words, the BDS indicates that effective policy to promote employment growth must include a central consideration for startup firms."*

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[3] *The Importance of Startups in Job Creation and Job Destruction*, The Kauffman Foundation, July 2010

## VI. The App Economy Impacts the U.S. and Global Economy

Industry analysts view the app economy as a stimulator for the overall economy. Earlier this week, The New York Times reported that Michael Feroli, the chief United States economist at JPMorgan Chase "estimated that the upcoming release of what is expected to be the iPhone 5 could add one-quarter to one-half of a percentage point to the annualized growth rate of America's gross domestic product next quarter." Mobile app economy start-ups will no doubt contribute mightily to this growth rate.

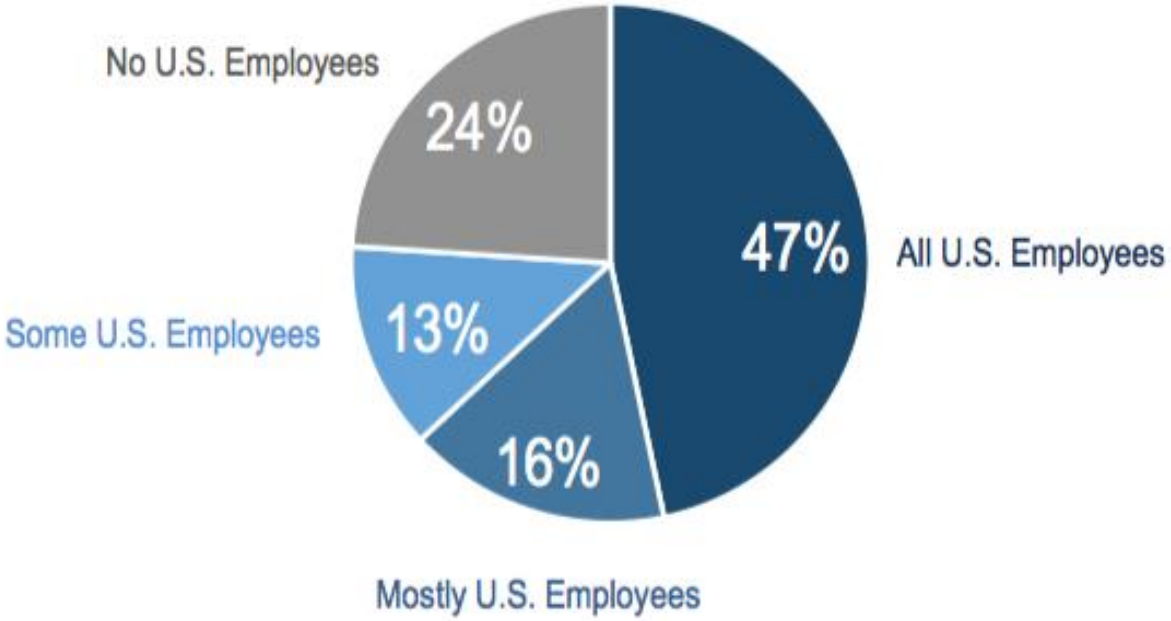
### *App Economy Impact on Jobs*

Many of Flurry's customers are start-ups in the mobile app economy. From a customer survey fielded by Flurry earlier this week, 63% indicated that most-to-all of their employees resided in the U.S.

Education is a key to continued job growth. Of the 269 companies, 71 percent agreed "Very Much" or "Completely" with the statement "My company needs more employees with technical training." Companies emphasized, however, that colleges and universities only "Somewhat," or "Not at All," provide adequate technical training for graduates to contribute to today's app economy. Only 24 percent of respondents agreed "Completely" or "Very Much" with the statement "My company can recruit enough skilled software developers," despite the fact that 84 percent of respondents agreed "Very Much" or "Completely" that their company's success depends on software development talent.

**Figure 8**

***Flurry Customers Surveyed: Proportion of U.S. Employees***




*Source: Flurry Customer Survey, September 2012, n = 269*

## *Case Study in App Economy Job Creation*

The app economy is positively impacting companies both directly participating in the industry as well as those with services enhanced by the app economy. Z2Live and Flurry are examples of companies that directly participate in the app economy. Flurry provides services to iOS, Android and Windows Phone developers and Z2Live builds and distributes iOS games. Box offers cloud-sharing of any file type from any device including smartphones and tablets. All three companies focus on hiring a highly skilled technology and business workforce, many with advanced degrees. Combined, they have hired over 700 highly-skilled workers since January 2011.

Figure 9

### *New Jobs Created Related to New App Economy*

| Company | Location | Business | Hired Since Jan 2011 |
|---|---|---|---|
| box | Los Altos, California | Cloud File Sharing (including mobile) | +500 |
| Z2Live | Seattle, Washington | iOS Game Developer | +125 |
| FLURRY | San Francisco, California | App Developer Services | +80 |

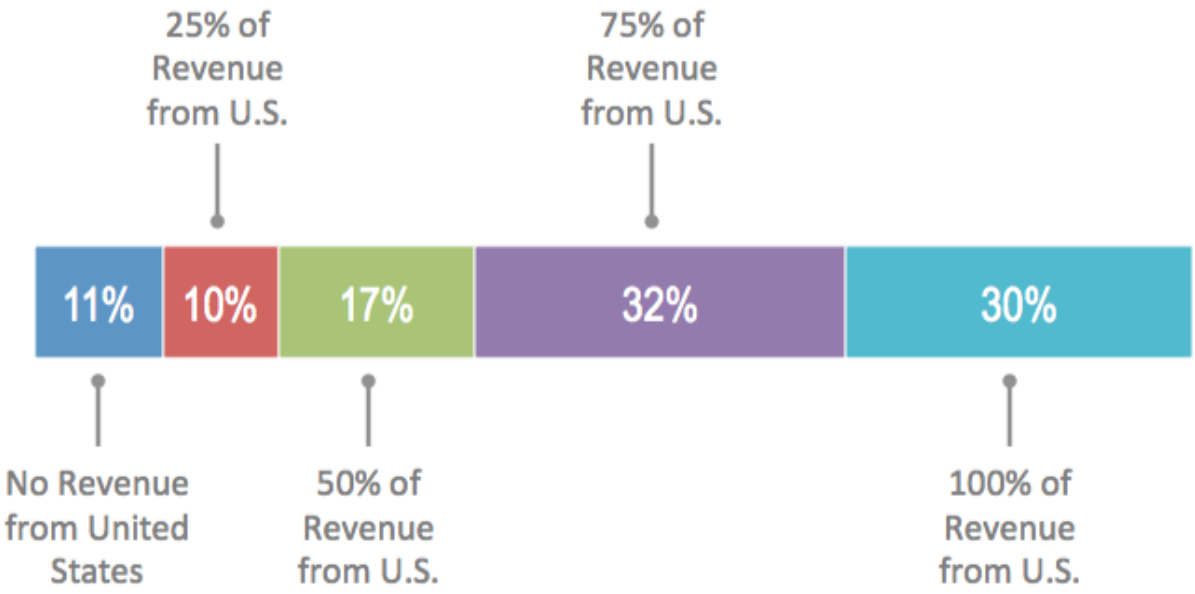
*Sources: Box, Z2Live and Flurry*

## *App Economy Impact on Stimulating the U.S. Economy*

**Figure 10**

### *Company Concentration of Revenue from United States*

The app economy is generating revenue in the United States, with 79% of companies surveyed by Flurry making half or more of their revenue from the U.S. This stimulates the U.S. economy.




*Sources: Flurry Survey, September 2012, n = 314*

## *Impact of the App Economy on Exports*

In addition, 70% of all companies surveyed are generating some revenue outside the U.S. Further, when we asked respondents how much they believed "The app economy will become increasingly international," 94% either agreed "Very Much" or "Completely" which indicates a nearly certain expectation that this market will grow abroad. We expect U.S. exports to climb as the app economy continues to expand internationally.

## *Conclusion*

We believe the app economy is poised to continue its rapid growth in the years to come, both at home and abroad. With Flurry's help, our customers are engaging users in new and exciting ways—with cutting-edge content on cutting-edge devices. Just as PCs transformed the economy in 1980s, the internet changed commerce and the dissemination of information in 1990s, and social networking is revolutionizing today the means by which people communicate, so too will apps change our economy and our lives in a fundamental and exciting way. The app economy—led by American entrepreneurs, engineers, and developers—is leading the charge of this decade's economic transformation.