SMALL TEAMS, BIG IMPACT:

Powering Revolutionary Ideas on the Cloud

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Executive Summary

With economies all around the world looking for solutions to an increasingly dire economic situation, we believe that facilitating the creation of new businesses by individuals and teams with an entrepreneurial bent is a significant opportunity for growth.

We believe Cloud Computing and some of the approaches that it enables is one way to increase both the speed these startups can move at, and their opportunity for success.

In this paper we focus on several different business drivers that Cloud Computing enables in this "startup economy" and give some specific case studies of startups being built in, and on, the Cloud.

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Foreword

We are living in an age of entrepreneurship. Most of the net new job growth in the USA in the past few decades has come from high-growth startups. All of us – investors, managers, policy makers, and ordinary citizens – have an interest in creating the conditions that will foster entrepreneurship. Our future prosperity depends on it.

There are probably more entrepreneurs operating today than at any time in history, thanks to profound changes in the startup landscape. New technologies, like cloud computing, are making it easier and cheaper to get started. New management methods, like the Lean Startup, are helping founders make better use of these capabilities. There has never been a better time to be an entrepreneur.

If I had to summarize these changes in one phrase, it would be this one: "the rentership of the means of production" – turning Karl Marx's famous dictum on its head. In past eras, to build and operate a company of significant scale required dozens of stakeholders to give you permission. You needed access to capital, machinery, factories, warehouses, distribution partners, mass market advertising, and so on.

Today, anyone with a credit card can rent all of these capabilities and more. This is the true revolutionary impact of the cloud. It's far more than just a way to save money, it is a completely new paradigm for organizing the infrastructure of a modern company. Cloud services provide a continuous path to scale, which means that early and modest investments in experiments designed to prove (or disprove) the viability of a business idea can be converted directly into the infrastructure of a rapidly-growing company with worldwide distribution.

And we need these experiments more than ever. The old management tools, pioneered by twentieth-century companies like General Motors, relied on planning and forecasting in order to measure progress, assess opportunities, and hold managers accountable. And yet who really feels that our world is getting more and more stable every day? Today, software companies can build anything they can imagine. So the question we are called on to answer is no longer primarily "can it be built?" but rather "should it be built?"

These answers require constant, disciplined, experimentation – in the scientific sense – in order to discover new sources of profitable growth. This is true for the tiniest startup as for the most-established company. The new science of entrepreneurship requires platforms that enable rapid iteration, business agility, and ruthless efficiency. In this whitepaper, you'll see case studies that reveal these forces at work.

Eric Reis

Author of The Lean Startup

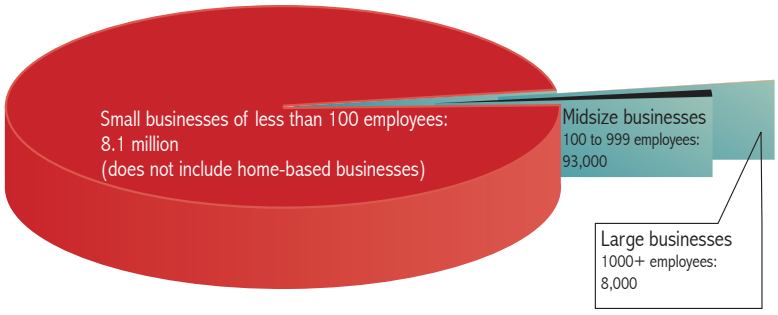
Introduction

It isn't hyperbole to say that small businesses are fuelling the modern economy. Small businesses are a massive proportion of business entities globally and more than ever, startups are rapidly growing to scale and competing with the largest companies. It has been estimated that 50 million new firms are started every year.[1] And small businesses continue to be important as they mature; statistics show that in Europe 99.8% of businesses have fewer than 250 employees.[2]

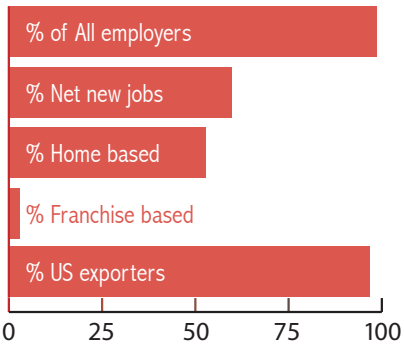
Small Business Punches Above Its Weight in the Broader Economy

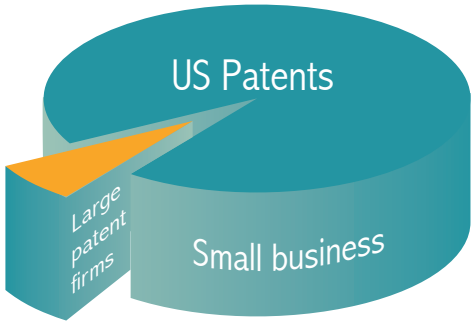
Small teams can make a big impact.[3] As shown in the below infographic, the number of small businesses in the United States is over 1000 times that of large businesses. Perhaps even more importantly however, the data shows that small businesses provide between 60% and 80% of new jobs annually – in difficult economic times it is telling that such a high proportion of new jobs are created by small and mid-sized businesses (SMBs).

Number of Businesses in the US...



Small businesses in the US...





Today's Startups are Tomorrow's Big Businesses

One needs to go back a century or so to see how small businesses grow to scale far more rapidly than ever before in history. In the old world, a railroad or mining company may have taken many decades to grow to size, constrained as they were by the need to find significant amounts of capital to invest in new ventures. Today we have a situation where technology helps to remove these capital constraints and gives startups the ability to grow almost without friction, especially high-tech startups. If we look at the highest value corporations in the United States, we can see a number that have grown to that position in only a couple of decades – both Apple and Microsoft, mere infants on the corporate scale of things are, as of publication of this report, in the top five US corporations by market capitalization. Apple, depending on the day, is sometimes the most valuable company in the entire world.

If we look even further and see the valuations that a small clutch of companies less than a decade old are attracting – one can imagine that names like DropBox, Box.net and Groupon could well reach that list even more rapidly.

It is this dramatic increase in the rate of change that is so transformational. Microsoft was founded during a recession, much like the one we find ourselves in today. What is different however is that unlike the 1970's, today the barriers to entry for a new startup are greatly reduced as technology becomes so much more accessible. In our first CloudU report[4] we pointed out that Cloud Computing democratizes technology saying that;

> "Cloud Computing is facilitating a seismic shift in terms of business development. Formerly entrepreneurs who wished to start a business had to invest significant capital into hardware and software licenses. Even the simplest of businesses required expensive software licenses, a server or two and the associated administration cost of keeping it all running.
>
> The availability of Cloud Computing solutions has led to a massive shift in the availability of computing power. It is now almost effortless for an entrepreneur to set themselves up with some infrastructure and applications upon which to run their business."

This democratization gives businesses with little or no capital the opportunity to test new ideas, kill the ones that don't fly and rapidly expand those that do – and in the process build the headline corporations of the future.

This paper will look at how startups today are using the Cloud to accelerate their ideas and their companies. And because real-world experience is the best experience, we will highlight some actual startups and draw lessons from their experience.

It All Starts With an Idea

In this environment where technology is increasingly democratized and homogeneous, it is fresh ideas that build good businesses. Even technology startups, perfect candidates for entities to focus purely on technology, generally focus on ideas first. In discussions with technology entrepreneurs who have managed to execute on their vision, a recurrent theme is that great startups are about ideas that consume their founders.

This drive and passion results in an idea being executed upon – but without that idea and the dedication to realizing it, technology is irrelevant.

Focus on the Idea, Not the Technology Stack

Given the fact that successful businesses are built upon passion for an idea and not a passion for technology alone, it naturally follows that entrepreneurs who start with a technology stack and then try and work an idea are going about things from the wrong direction. We contend that technology's fundamental role is to enable solutions to the problems we are trying to solve – looking at an idea that solves a fundamental problem, and then deciding what is the best technology to solve that problem is the best approach.

The Value of Lean

Outsourced technology, the availability of freelancers and the reduced cost of internationalizing a business means that more than ever, a small team can have a massive impact. While the cliché of a couple of guys in a garage building a company that can change the world might sound a little tired, Cloud Computing certainly helps enable this to occur. And you might not even need the garage.

The case studies illustrated later in this report show that the hard part is coming up with a great, transformative idea. Once that obstacle is passed, democratized technology makes it easier than ever before to execute upon that idea.

A Trineo Case Study: How to Survive Over 7500 Earthquakes with the Cloud

Trineo is a software development business that focuses on custom solutions using a variety of different technologies. While having a global customer-base, Trineo is headquartered in Christchurch in the South island of New Zealand. The founders of Trineo choose to live away from the epicenter of technology for lifestyle reasons. Over the past year this choice has been called into question as Christchurch has suffered over 7500 earthquakes including an event on February 22nd that decimated the commercial heart of the city.

Over the past year Trineo has been forced to move offices four times as buildings have been deemed unsafe following earthquakes – throughout the trying time however Trineo has suffered no issues with regards to business continuity.

While not every startup needs to think about planning for seismic events, they do need to think about the potential for business interruption. The steps that Trineo took both before and after the earthquakes show the value that Cloud can bring in this important aspect of running a startup.

Initially the Trineo team worked from various locations in both New Zealand and Australia. All Trineo's development happens on various Cloud platforms and this ensured that no projects or live applications were affected in any way by the events.

When they first founded the company, Trineo carefully selected the tools they use internally and chose a wide range of different tools, all of which are hosted in the Cloud. Trineo makes use of Google Apps, Dropbox, the Atlassian suite, MinuteDock, Xero, Pivotal Tracker and GitHub. Using all of these tools ensures that a new laptop can be fully provisioned and ready to access all the tools a Trineo worker needs within two hours – all that is needed is a reasonable internet connection.

While earthquakes are hopefully something that no startup encounters in their journey, given their experience Trineo is very happy they made the decision to base their business around Cloud tools and applications.

Failure Isn't Bad – Embrace It

If one looks at entrepreneurs who have been successful in recent decades, it is not at all unusual for these people to have previously been involved in a failed startup. Add to this the number of companies that succeed after what has come to be termed a "pivot", and we can see that failure isn't necessarily a bad thing per se. Fundamentally, failure happens, but the key thing is to increase the velocity of startups so that they can fail fast in the event that their proposition is flawed.

The benefit of fast failure, especially in a Cloud enabled business, is that fast failure tends to equate to failing cheaply which results in the startup being able to turn around and modify their proposition, team or technology and try again.

Cloud Enables Rapid Ideation

Rapid ideation, an approach that sees products and services created rapidly and iterated quickly and often, is an approach that we believe gives the best chance of success in a rapidly changing business environment.

With Cloud Computing, prototypes are inexpensive, the cost of demoing an application "in the wild" is cheap and applications that aid the rapid development collaboration are plentiful. Add to this the fact that with Cloud infrastructure the cost of providing servers is tied to the actual usage and we can see that Cloud helps companies to maximize their iteration velocity, while minimizing their cash requirements.

A Vend Case Study: How to Increase Business Agility

Vend is a startup that is hoping to revolutionize the way retailers run their Point of Sale (POS) systems. Rather than being clunky software that needs infrastructure within the store to run it, Vend is a fully Cloud-based application that, through the use of smart technology, still allows retailers to do business if their internet connection fails.

As a SaaS vendor, Vend founder and CEO Vaughan Rowsell decided to actively "walk the walk" from day one. Vend runs no infrastructure other than internet connections – with 15 staff spread literally across the globe – they need to ensure that everybody can work with the same tools at the same time as to remain agile.

The tools Rowsell has chosen reads like a pick list of Cloud applications – it includes;

- Google Apps for all internal email and documentation management
- Google Sites for internal intranet
- iChat/Skype for all voice and video coms
- Dropbox for file–sharing
- Tender for helpdesk
- Chargify for recurring billing
- Xero for accounting
- Geckoboard as a business dashboard

Rowsell is very positive about the agility and focus that Cloud tools have given Vend. He sees the main benefits as:

- Economic – Vend does not have to spend money on kit and software licenses
- Speed – Rowsell says that Cloud tools are "Fast to replicate and roll out. To setup a new hire, we order them a laptop. All our apps are in the Cloud so they can get up and running instantly. From anywhere"
- Easier sharing – Rowsell finds that Cloud tools enable him to engage his investors more readily, he says that "We share KPIs to investors via Geckoboard, financial information with advisors via Xero and knowledgebase articles with our reseller partners via Google Sites and Tender"
- No capital expenditure for technology – Cloud tools are available on a monthly subscription with no capital outlay. That has been critical for Vend's early success. Rowsell explains this saying that "We can pick the best of breed tools to use for our business without the fear of making a huge capital investment into something that we may not want or need in 6 months' time"

An anecdote that Rowsell uses to sum up the value he sees as the CEO of a rapidly growing startup goes a good way to stating the case plainly. “One benefit became very clear to me when I spilled a full cup of coffee over my MacBook. It was toast, but I just fired up a new machine and all my critical documents were there, as was my email and all the tools I need to run the business. Zero downtime.”

Vend is building a world class business, at minimal cost and with minimal pain – on, in and from the Cloud.

Cloud – The Platform for Modern Startups

Recent statistics[5] from the YCombinator startup incubator gave some interesting perspectives into how startups are structuring their companies. Of the YCombinator companies, the vast majority use Cloud providers for their hosting and their email. Anecdotal evidence suggests they also heavily rely on SaaS for their collaboration and other application needs.

We contend that the reason that very few startups host their own infrastructure is that startups are, by definition, about unique ideas. Operating infrastructure is a commodity requirement, much like the provision of electricity, water or telephone lines. As we pointed out in our first CloudU report,[6] in the same way that historically businesses had to provide for their own requirements in terms of power for machinery, so too did businesses have to provide their own IT infrastructure.

Many startups don't consider their infrastructure any differently from other utilities and as such generally don't consider taking responsibility for this side of their business themselves. We contend that in most instances, to self-host one's infrastructure simply doesn't make sense for a startup that, by definition has a myriad of other more strategic things to think about. Cloud Computing gives them the opportunity to let someone else do the worrying for them.

As we detailed in a previous CloudU report[7] the term "Cloud Computing" means different things to different people.

We use a simple acronym to define Cloud Computing. This acronym was developed by Dave Nielsen, one of the founders of the CloudCamp series of conferences. This definition sees Cloud Computing described as OSSM (pronounced "awesome"). This simple concept stands for the following;

- On-demand: the infrastructure or hardware is already setup and ready to be deployed
- Self-service: the customer chooses what they want, when they want it
- Scalable: customers can choose how much they want and ramp up if necessary
- Measurable: there's metering/reporting so you know you are getting what you pay for

Within this definition lie three distinct different types of services – Software as a Service (SaaS), Platform as a Service (PaaS) and Infrastructure as a Service (IaaS). We detail the difference between these three approaches in a previous report.[8]

Startups have the ability to leverage all of these different parts of Cloud Computing – using for example Cloud based email, collaborative development platforms and Cloud-based infrastructure for their application or website.

MinuteDock Case Study: How to Automate Repetitive Tasks So You Can Focus on Your Passion

MinuteDock is a Software-as-a-Service (SaaS) product running entirely on Cloud hosting. One of the biggest competitive advantages that MinuteDock can leverage as a small provider is agility and the ability to quickly develop, test, and deploy new application features without sacrificing quality.

In order to do so, MinuteDock needed a way to quickly provision a new application environment for the purposes of Quality Assurance testing before pushing features to customers. This common scenario, otherwise called a "staging" environment, is sometimes a drag to deploy and maintain. They also needed to be able to test different development tracks in parallel without dependencies complicating the testing, to create a usable link to each environment via a DNS entry, and to bring down the environments when they were no longer being used.

A Cloud solution was perfect for this requirement. MinuteDock built a Configuration Management solution on top of Opscode's Chef platform, a commonly used tool to build pre–configured infrastructure configurations. They then used the included tools to provision and bootstrap new Cloud servers. MinuteDock then used Rackspace's DNS API (via the Ruby Fog Client) in order to create DNS entries for testers to access. The whole process was again easily reversible via the API.

The resulting solution allows MinuteDock to create on-demand test environments via a single shell command, in a cost-effective and reliable manner using Cloud Servers.

Another example of Cloud allowing developers to focus on what is really important, and automate the important, but low value, work.

Conclusion

Startups represent a significant opportunity for economic growth and may represent the solution to an increasing economic malaise. In order to ensure they have the best chance of success, startups need to always pursue an idea that sees them move fast and stay lean.

Modern development and collaboration approaches, along with an appetite to "fail fast" are enabled by Cloud Computing in its various shapes and forms. Thus Cloud Computing is one of the enablers that gives startups the best opportunity to execute upon their vision.

In an environment where technology is ubiquitous but ideas are rare, Cloud Computing gives entrepreneurs with smart ideas the best chance to succeed.

About Diversity Analysis

Diversity Analysis is a broad spectrum consultancy specializing in SaaS, Cloud Computing and business strategy. Our research focuses on the trends in these areas with greater emphasis on technology, business strategies, mergers and acquisitions. The extensive experience of our analysts in the field and our closer interactions with both vendors and users of these technologies puts us in a unique position to understand their perspectives perfectly and, also, to offer our analysis to match their needs. Our analysts take a deep dive into the latest technological developments in the above mentioned areas. This, in turn, helps our clients stay ahead of the competition by taking advantage of these newer technologies and, also, by understanding any pitfalls they have to avoid.

Our Offerings: We offer both analysis and consultancy in the areas related to SaaS and Cloud Computing. Our focus is on technology, business strategy, mergers and acquisitions. Our methodology is structured as follows:

- Research Alerts
- Research Briefings
- Whitepapers
- Case Studies

We also participate in various conferences and are available for vendor briefings through Telephone and/or Voice Over IP.

About Rackspace

Rackspace® Hosting is the service leader in Cloud Computing, and a founder of OpenStack™, an open source Cloud platform. The San Antonio-based company provides Fanatical Support® to its customers, across a portfolio of IT services, including Managed Hosting and Cloud Computing. Rackspace has been recognized by Bloomberg BusinessWeek as a Top 100 Performing Technology Company and was featured on Fortune's list of 100 Best Companies to Work For. The company was also positioned in the Leaders Quadrant by Gartner Inc. in the "2010 Magic Quadrant for Cloud Infrastructure as a Service and Web Hosting." For more information, visit www.rackspace.com.

About the Author

Ben Kepes

Ben Kepes is an analyst, an entrepreneur, a commentator and a business adviser. His business interests include a diverse range of industries from manufacturing to property to technology. As a technology commentator he has a broad presence both in the traditional media and extensively online. Ben covers the convergence of technology, mobile, ubiquity and agility, all enabled by the Cloud. His areas of interest extend to enterprise software, software integration, financial/accounting software, platforms and infrastructure as well as articulating technology simply for everyday users. More information on Ben and Diversity Limited can be found at http://diversity.net.nz

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Endnotes

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