



HUGE AUDIENCE WAVE AHEAD? DIVE IN!

Lessons from ABC's *Shark Tank* can help your company prepare.

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NAVIGATING A MASSIVE TRAFFIC BOOST?

Survival is in the details.

Everyone seems happy,
but then the event arrives,
the site crashes, and
everybody points fingers.

It's a common situation many start-ups and growing companies find themselves in: An audience surge is headed directly your way, yet your small business has not invested in the company website.

When it seems that the whole world is coming to your online home, will you sink, or will you swim?

ABC's hit reality series *Shark Tank* is consistently the number one network show on Fridays with nearly eight million viewers per episode.

An appearance on the show is guaranteed to deliver a wave of visitors to participants' websites. It's crucial to be able to accommodate the wave of incoming traffic without incident. If you can't manage the crush, you could lose a lot more than just revenue.

The same is true for any comparable traffic event. When tens of thousands of people are hitting its servers in the same moment, your website must be up and running and stable.

TECHNICAL SAVVY FOR THAT BIG MOMENT



Michael Johnstone's highly intriguing work stands at the intersection points of business innovation and reality television. As the Director of Web Services for Mark Cuban Companies, Johnstone and his colleagues mentor the innovative start-up companies who are scheduled to appear on the popular reality series.

In readying *Shark Tank* competitors for a massive moment online, the Cuban Companies technical team encounters classic problems any typical small business would face.

"The one thing most companies seem to miss, is that for a small business there's a gap," said Johnstone. "There often will be a disconnect between too much marketing thrust, and too little technology on the back end."

An event brings anticipation that can cause people to fail to address essential technical needs. "Everyone seems happy, but then the event arrives, the site crashes, and everybody points fingers," Johnstone said. "It's a pivotal moment, and you've got to look at all the little things that could detract from success, and create a system right away."

Of the *Shark Tank* companies Johnstone has prepped in the last three years — 32 high-traffic events, not counting reruns or follow-up episodes — more than a dozen are on Rackspace.

SMALL COMPANIES, BIG TRAFFIC CHALLENGES

Where a technology start-up usually builds software or some technological tool for the customer, the typical *Shark Tank* company is product-oriented — usually with a founder and perhaps a few others on the team with little to no technical background. Often they'll have no fulltime IT staff, preferring to outsource this function.

When the telecast airs, these companies are going to have what amounts to a huge flash sale. In addition, they're going to go from a few hundred visitors a day, to 80,000 concurrent connections in a single minute.

Shark Tank competitors receive several minutes of network TV time that is worth millions (not to mention re-airings or online views) — exposure that they would never earn elsewhere.

When it's showtime, participants will have the opportunity to make a lot of money and launch their business — and even later, when their episode re-airs, they are going to have that shot at overnight success that every small business dreams about.

Normally, the Cuban Companies team and their technology partner, Rackspace, get about two weeks to prepare competitors. The team adheres closely to a proven plan to build out participants' infrastructure, and also acts as their support team.

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PLANNING THE DETAILS

1 GATHER INFORMATION

Identify which files load or don't; how fast the entire site loads; structure and how the site is built.

2 IDENTIFY THE ESSENTIALS

Locate the various large components of the website, their owners, and all of the players involved whether contractors, internal employees, vendors, etc.

3 PRIORITIZE

Once a company knows where it currently stands, the next step is to put together a plan tailored to their situation — organized by A priorities and B priorities. “Your A tasks are the ones that ensure you survive a high-traffic event,” said Johnstone. “Often this is the moment your technology, your developer, your CTO, and your marketing department or CEO conflict. Make sure they don’t drop the ball.”

4 TO GET IT RIGHT, GET EVERYONE ON BOARD

“Determine the prep time you’ll need and move quickly,” said Brandon Elliott, Chief Technologist, Digital at Rackspace. “With the accelerated timeframe, you will be making compromises.”

5 STICK TO THE ESSENTIALS

“Try to peel away every detail that’s not necessary, that’s not critical, because when, in the case of *Shark Tank*, you are going to hit 80,000 concurrent connections, you can’t afford anything extra,” said Johnstone.

6 ONCE YOU KNOW THE SITE IS GOING TO SURVIVE, CLOSE THE SALE

“It’s not just a matter of having a website,” said Johnstone. “It’s a matter of getting them to a sale; making sure they can check out. In planning that process accordingly, you will move people step by step through the process.”

PAGES FROM THE PLAYBOOK

Getting it right at launch means having a plan in place.

Surviving a high-traffic event can be hard to navigate. People new to an audience surge tend to think of it as a math problem with a solution. If it were that predictable, getting it right every time would be a breeze.

After having overseen dozens of high-traffic events for dozens of companies, I can tell you it's much more like preparing for a basketball game. In this analogy, the opponent you are preparing for is the surge in traffic.

- 1 Assess the opponent and your own strengths and weaknesses going in.
- 2 Pick your players, and your plays, ahead of time.
- 3 Know what you're dealing with: the number of visitors, type of device, how quickly they will arrive, how long they are likely to stay, what they'll do while they're there.

Get a glance at the
Mark Cuban Companies
playbook for *Shark Tank*
from the man who
authored it,
Michael Johnstone,
Mark Cuban Companies'
Director of Web Services.



BE PREPARED

In sports, playbooks make for dull reading. Coaches personally mark them up and players carry them everywhere, studying the secrets behind success.

It's about adopting a systematic approach beforehand, and then reacting during the game as best you can. Afterward, you always capture observations for the next game, reviewing what went well, and what didn't.

TALK TO THE PEOPLE WHO'VE ALREADY BEEN THROUGH IT

With the *Shark Tank* companies, we have history to draw upon. Regardless, whether you're a startup, an app developer, or an indie game developer, there are people who can give you a general idea of what you're up against. If you're able, get that detail.

ASSEMBLE A SOLID TEAM SUPPORTING YOU

Secure a hosting company with a dedicated engineer, DevOps, a developer, a project manager, and a business decision maker. You need people who've been responsible for high traffic events in all these positions if possible, and at a bare-bones minimum, make sure you have the hosting company's engineer, and the DevOps team.

Shared hosting means that there are many sites on the server. Any single site can crash the server, given the right circumstances.

Interesting note: In my experience, a developer who is willing to follow directions won't need prior experience in high-traffic events. (Poorly written code, however, is always a problem.)

Typical mistakes: Executives unfamiliar with tech tend to lump IT together. Managing server configuration, network configuration, programming (web or backend), and the database are all distinct job roles. It's ok for one person to perform multiple roles, and it frequently happens in smaller companies. But it's not ok to group them. You need to make sure your team has these skillsets covered and clearly assigned.

A professional tip on hiring: If you ask a question and get a lot of caveats, ask what it would take to get a response without those caveats.

For example: *"Are you confident in your ability to configure the servers?"*

Good Answers:

"Yes. I know all the technologies we're using and I can handle it."

"Not really. I know the technology, but I'm not an expert in it. We might want to get a second set of eyes on it."

Bad Answers:

"I can do it but I didn't set up the servers. I don't know what the traffic will be like and, I'm not sure about the software."

"That's the hosting company's job."

HOSTING

Go with cloud hosting from a top tier provider who will give you a direct contact.

- If you're on shared hosting or VPS (Virtual Private Server), this won't cut it. Shared hosting means that there are many sites on the server. Any single site can crash the server, given the right circumstances. Your site is going to need multiple servers, not a fraction of one.
- If you're on a cloud server, be careful. A single cloud server probably isn't enough. We've used cloud servers many times, but this is typically a dozen or more, working together with several database servers in the cloud.

Do you really need a slider? Maybe one image is better than eight.

- Fully managed cloud options. The Rackspace Cloud is like putting your site on a bunch of cloud servers, but you obscure the management of the cluster. Although we've had success with this approach, note that it doesn't fit in all cases. You have less access to the server config, and depending on the site, you may need the database on a separate server.
- Hosted applications. If you're paying a monthly fee for an online store from a provider like Shopify or Big Commerce, you don't have control over the code or the servers. Just make sure they're ready.

WEBSITE/SOFTWARE

- Look again at the homepage.
- Do you really need a slider? Maybe one image is better than eight.

In a high-traffic event, details matter. If you're driving a car 5 mph, aerodynamics isn't a factor. It won't matter whether you have an antenna ball. But when you're racing at 200 mph, you don't just get rid of the antenna ball — you also eliminate the antenna. But you won't miss it because you already removed the radio to save weight.

PAGE SPEED

- Test it — It should be under four seconds.
- No excuses. Throw out whatever you can until you get there.

DATABASE

- Assess what you have and how much time you have.
- Make sure the server is robust and the database is ready.

MARKETING

- Don't forget this in your planning. A high-traffic event is not a normal day. Capitalize on it by planning for it. If you have a product website visitors can buy, sell it. Focus the home page on that, offer a special and close the sale.
- The general rule is: if it's not moving people to checkout, don't give it much time or attention.

- If your product or the purchase experience is complicated, simplify it (you can do this solely for the event, and later revert). If it's a custom product, offer 2-3 standard options on discount. You'll close more sales and production will be easier.
- If the item's in the app store, send people directly there at the top of the home page, and place any other content below/after that.
- If the item's not ready for sale, pre-sell or gather leads.
- Don't waste time on ego efforts. Long introductory videos rarely close sales. Maybe you're the exception, but the chances are low.
- Include links to your social media accounts, but no need to feature social or waste precious screen real estate with a list of recent social media posts. Stay on point.
- Be ready to remarket: Facebook custom audience pixel, retargeting ad code, Analytics.
Note: More is not always better. You don't need dozens of these. You can't successfully manage all of them anyway. Pick a few and make sure you cover the general areas. Don't overload the site with extra Javascript.

Buy the best load-testing
you can afford — then fix
everything that breaks.

LOAD TESTING

- Do it, if at all possible.
- Consider the difference in what's happening with page load vs. sales vs. logins.
- Buy the best load-testing you can afford — then fix everything that breaks.

YOUR EMERGENCY PLAN

The rule of thumb is to plan for the unexpected. At Mark Cuban Companies, this is our backup plan for every *Shark Tank* company now.

- Prepare a straight HTML landing page, with very few highly optimized images, and a key marketing objective.

- Put everything on a CDN.
- Cloud hosting you can bring online in hours. (Check your DNS provider and settings.)

You can't afford to be caught off guard. If expected traffic is overwhelming or you only have a couple days to prepare, this is your answer. Don't equivocate here. Get it done as fast as possible.

A NOTE TO THE CEO

Whether you're a small business owner, CEO of a startup or otherwise directly in charge of this project, remember these guidelines:

Be a good leader.
If something fails despite
everyone's best efforts,
be supportive and
move on.

- 1 Be ready to compromise.** To quote Mark Cuban, "perfection is the enemy of profitability". Your tech team is not trying to mess up your plans. They're trying to deliver on their objective: surviving the high traffic event. Work with them.
- 2 Think of this as a moment, not a lifetime commitment.** High Traffic events are unique and rarely long lasting. Think about how you capitalize on the traffic and how you can leverage it long term. You can make changes for this event that can be undone a week later.
- 3 Be creative on the business side.** If there's a technical limitation, find a way to market or sell around it. Don't get stuck wishing technical limitations away.
- 4 Accept the recommendations you're getting.** You can push back a little, but let your subject matter experts advise.
- 5 Take responsibility.** Technical limitations occasionally conflict with business or marketing wants. If there's a business problem conflicting with the tech, learn the pros and cons from each side and make the call. But own it. If you choose the marketing argument against tech's advice, know they're going out of their way to make it happen. But at the end of the day, you took on the risk.
- 6 Question.** It's always worth asking for an explanation if you don't understand.
- 7 Be a good leader.** These moments are stressful. Ease that, don't add to it. If someone doesn't do something they were supposed to, call them on it. If something fails despite everyone's best efforts, be supportive and move on.

INSIDE THE SHARK TANK

In *Shark Tank*, aspiring entrepreneurs pitch real ideas to a panel of “shark” investors, including billionaire Mark Cuban.

Entrepreneurs are seen by millions of viewers who are also potential customers and business partners.

Shark Tank (ABC, Fridays in season, at 9 PM Eastern) is a critically-acclaimed reality series in which a lucky few entrepreneurs present their ideas to a panel (the “Sharks”) — including billionaire and Dallas Mavericks owner Mark Cuban — on their business ideas.

Successful pitches spark a feeding frenzy, as panelists try outbidding one another, with their own money, for a piece of the action. This series provides a fascinating glimpse into how business ideas fare, based on a variety of classic startup decisions, common management scenarios, and yes, prototypical mistakes.

Panelists bombard the innovators with sales, market share, and ROI-focused questions. The Emmy Award-winning business-themed show gives people from all walks of life the chance to chase the American dream of a small business potentially securing big success.

THE SHARKS

Mark Cuban, Owner/Chairman, AXS-TV and Dallas Mavericks

Robert Herjavec, Technology Innovator

Barbara Corcoran, Real estate mogul

Daymond John, Fashion/Branding Expert

Lori Greiner, “Queen of QVC”

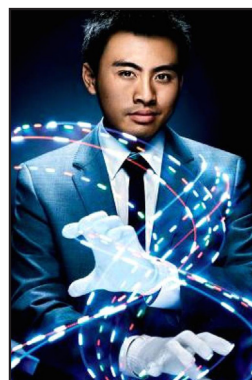
Kevin O’Leary, Venture Capitalist

Aside from the astonishing publicity a company receives from making a *Shark Tank* appearance, entrepreneurs are also being seen by millions of viewers who are also potential customers and business partners. They’re gaining direct access to huge supply chain players, retailer and money sources.

EMAZINGLIGHTS

For *Shark Tank* competitor EmazingLights, migration to the cloud took time. To prepare for the event, Rackspace worked fastidiously, going through many testing cycles to help the customer endure and overcome challenges the night of the show.

Sales have been rising.
We've been expanding
stores across the U.S.
We're growing on
every front.



Brian Lim has been an entrepreneur his whole life. His parents emigrated here from China to escape Communism, and while they always struggled to make ends meet, they worked hard, owning an Anaheim shop for 25 years.

Their story helps to inform why the 27-year-old EmazingLights founder describes himself as always having had “that hustler mentality.”

“I ended up going to UCLA for business, and I’ve always been trying to start small businesses online, selling CDs on Craigslist, all that type of stuff,” said Lim, who later worked as a technology analyst for Deloitte Consulting.

Today Lim’s company sells EmazingLights — white cotton gloves, with LED lights embedded in the fingertips — for use in gloving, a dance craze where the “glovers” form artistic light patterns as their gloved hands move to the beat.

EmazingLights is grateful for their first 15 minutes of fame. Lim impressed the *Shark Tank* panel with his knowledge of his product, his business, and his market, so much so that the company made a deal worth \$650,000 — not counting the broad network TV exposure and word-of-mouth.

“Our *Shark Tank* appearance has been tremendous, and we’re experiencing double, even triple the visitors and looking forward to the broadcast re-airing,” said Lim. “Sales have been rising. We’ve been expanding stores across the U.S. We’re growing on every front.”

The largest glove light distributor, EmazingLights was named to the “Inc. 5000” list for 2014, for achieving a 2,281% growth rate over 3 years of operation and bringing in \$5.8 million in revenue in 2013.

The company traces its origins to 2009 with Lim’s love affair with EDM, electronic dance music. “When I went to my first EDM event, I loved the positive vibe,” he said. “The idea started with me trying to get better products for myself and my fiancée, and eventually turned into a nice little business, when we started selling lights out of the trunk of my car.”

He started a weekly “gloving” meet-up, called Friday Night Lights, in the parking lot of an In-N-Out Burger in Baldwin Park.

“At first, five people were there, then 15, then 25, then 100 — until eventually In-and-Out had to ask us to move on,” Lim said. “We rolled that into different parking lots for a while, until we were able to afford our first retail store [in West Covina]. I was doing all of this while working full-time at Deloitte.”



Going to the cloud in such a short time was a challenge. Although Lim’s *Shark Tank* episode taped previously, his company only had two weeks’ notice in advance of the airdate to prepare their online ecommerce for the coming wave of visitors.

“We got on multiple conference calls with the show, Michael Johnstone came on board as well, and the Rackspace team began working on a full cloud solution,” Lim said. “Our situation isn’t all that different from everyone else at a startup stage. We’re a bootstrap company, and we were making it work, using Magento and managing offshore teams to do coding.”

Michael Johnstone came on board, and the Rackspace team began working on a full cloud solution.

Lim: “We were setting up servers probably during the three weeks before the airdate, but we load-tested up until about two days before air. The Rackspace team made a huge impact, pulling 20-hour days “well above and beyond our expectations.”

Despite the “all-in” preparation of the cross-functional team leading up to the event, EmazingLights needed to implement its backup plan going into their first airing on *Shark Tank*, due to challenges with database replication. By planning for these contingencies in advance, their website was able to keep visitors engaged until it was ready to handle online orders during the second airing that night.

“Unfortunately, we could not get it done in time,” said Lim. “At 6 p.m. Pacific, *Shark Tank* aired in the Central and the Eastern time zones, and we got hit hard.” Owing to the testing compromises EmazingLights elected during the tight timeframe, DBaaS did not replicate (and thus, scale) during the program’s initial airing. However, between the east and west coast airings, the Rackspace team continued worked with DBaaS to successfully scale the DBs in time for the Pacific Time airing.”

EmazingLights and the *Shark Tank* and Rackspace technical team had planned for a static, backup page to serve. Visitors who couldn’t get fully through during peak traffic would at least see a full HTML page that thanked visitors, informed them that the site was busy from *Shark Tank* and suggested links to the most important pages for product purchase and additional information.

Rackspace went above and beyond in pretty much every area to help us get prepared for *Shark Tank*.

The static page linked visitors to a reseller so they could go purchase from the amazing products there and we had the links to our videos to learn more about gloving,” said Lim. “We were also linking out to Mail Chimp’s signup page for emails.”

During the initial telecast, the technical team kept working to get the database back up. Just before the 9:00 p.m. (west coast) airing, they succeeded, and the company was able to take numerous direct orders.

“Our sites usually get about 2,000 to 4,000 hits per day, and of course, this was more than quadruple the traffic, per minute, for an entire weekend. And for a long period of time, a week or two afterwards, we saw significantly increased traffic.”

“Rackspace went above and beyond in pretty much every area to help us get prepared for *Shark Tank*,” said Lim. “For a simple project like this, getting a huge ecommerce platform ready for *Shark Tank*, it’s usually like a six-month or a yearlong process. We shoved it together maybe within two, three real months of really moving quickly on it.”

The fourth annual International Gloving Championship was held on November 15, 2014, in Santa Ana, California, with over 500 competitors and spectators. Lim expects that number will be far higher in 2015, thanks in no small way to the newfound exposure for gloving, and his successful company’s appearance on *Shark Tank*.

Q & A: A CHAT WITH RACKSPACE SMEs

In their work with Mark Cuban Companies during *Shark Tank*, Rackers Brandon Elliott and Justin McSheehy have seen it all.

WHAT ARE SOME OF THE COMMON *SHARK TANK* PARTICIPANT CONCERNS THAT ANY WOULD BE SHARED BY OTHER SMALL BUSINESS PREPARING FOR A PLANNED/KNOWN TRAFFIC EVENT?



Justin McSheehy, Digital: Partner Sales Manager: Everybody's excited, but they must also understand the potential consequences. When we come in and say, "What version of Magento are you using?" and we propose to switch it completely, often they're taken aback. After all, they've built their business on it. You've got to set realistic expectations. In addition, it's a benefit to the company to approach this as a one-time, special event; to stay up and running, you are going to need to make some changes. One additional consideration: Rarely is there enough time to make every change, so prioritizing becomes extremely important.

Using cloud technology in a scalable fashion packs a lot of power, and there is real value there.

MAKING BIG CHANGES UNDER TIME PRESSURE IS STRESSFUL. ANY THOUGHTS ON WHAT A SMALL BUSINESS NEEDS TO FOCUS ON, TO FEEL CONFIDENT?



Brandon Elliott, Chief Technologist - Many companies preparing for a surge are typically used to having one cloud server or a physical server that handles the majority of their traffic. If you're going to be facing a substantial event requiring multiple servers, that's magnitudes of difference. The internal traffic it creates, the traffic into the database, can actually overwhelm your network.

A single database architecture is all that most of these companies have, and this handles your site traffic pretty well. In any traffic event, you have to go from this thinking, to getting things working with two or even three databases. These are major structural changes that customers often aren't ready for. Luckily, we've seen this before. We know what it's going to take down to the specific applications. We know how to make it work with multiple databases.

Customers that keep too many “nice to haves” end up having a site that crashes because it’s too much, too little, too late.

WHAT ABOUT THE CUSTOMER WHO HAS ALREADY “FELT THE PAIN” — THEY WERE PERHAPS ALREADY HIT WITH AN UNFORESEEN SURGE, OR THEY FAILED TO ANTICIPATE THE MAGNITUDE AND PREPARE. WHAT RECOURSE WOULD THEY HAVE?

Justin McSheehy: It helps to start by looking at anticipated traffic. Inventory is another consideration. If a million people come to your site, and you only have a thousand units of the product on hand, you will only be dealing with a thousand orders. Other factors here include whether your site is optimized on the servers to run Magento; which version of PHP is best for your situation; and so on. Using cloud technology in a scalable fashion packs a lot of power, and there is also real value there, with last-minute fixes.

For a known event, we work very closely with our DevOps team for these deployments. They’re tracking, they’re watching with monitoring tools, and they’re ready to go and deploy the pending web servers with the push of a button because everything is automated — and deploys fast.

A SHORT RUNWAY WILL SOMETIMES RESULT IN CONFLICTS BETWEEN MANAGEMENT AND TECHNICAL LEADERSHIP. ANY ADVICE?

Justin McSheehy: Yes. Business owners planning for a known event who really just want that new look, or who want that mobile site to be available, have got to be realistic about what might set back the timeline. I believe that customers that keep too many “nice to haves” end up having a site that crashes because it’s too much, too little, too late.

Brandon Elliott: There are things you can do. You must collaborate with marketing and kind of come together with what is the best case and what’s feasible within the time you have. If there’s going to be a media event, go back to the most anticipated features your customer’s going to need. If the audience is going to go to your homepage — or they’re going to Google — identify what the top links are in those search engines, and optimize for those pages. Or you can land them on a static copy of that page.

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