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Research Note

Technology Risk and Business Impact

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Abstract: Obamacare has been in the news for all the wrong reasons. One of the most striking parts of this entire showdown has been how the healthcare.gov website failed to take off. Millions of people tried to register but were unable to do so but the IT infrastructure was not stable enough to balance out this load. Website management is important for any type of business to sustain not only customers but their web presence as well. An important part of this strategy is to be able to anticipate spikes in web traffic and have a plan in place to divert this traffic or load balance it out to make the website accessible.

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Introduction

Obamacare or the Affordable Health Care Act was launched amidst a lot of drama last weekend, but most Americans woke up to the news that the website for the Act was down due to heavy traffic and most people were unable to register for the health insurance plan. Technical glitches slowed down the website and were as ultimately inaccessible to many prospective registers. The Department of Health and Human Services determined that 2.8 million people visited the federal HealthCare.gov since the midnight of its launch.[1] It's also been widely perceived that federal government had to spend an enormous amount of money, around $300 million, to offer its healthcare plan online.[2] One would hope that, if such magnitude of money is being spent, it would ensure a fast website that is able to sustain the number of visitors it projected. While it does indicate the desperate need for such coverage of millions of uninsured Americans, it on the other hand indicates the risks involved when business is dependent upon IT. Setting up services online is definitely convenient and enables businesses such as healthcare and banking to reach to a wider audience, but a robust IT infrastructure needs to been in place to manage web traffic and provide availability of services at all times.

Healthcare.gov – More Expectations and What Went Wrong?

The Obama administration is known for being tech savvy, as indicated with the 2012 presidential elections when they showed their technical prowess and superiority in reaching out to people through social media, applications for mobile phones, and so on. So it came as a huge shock to many when the Obama administration was not able to deliver on the healthcare site. While many will argue that "orchestrating

a website of this magnitude that needs to be compliant and align with many systems such as Federal systems, insurance companies, can be challenging"[3] expectations were nonetheless very high, and the bottom line is they weren't remotely met. It is also being argued that the U.S. is home to major Internet companies that have revolutionized Web 2.0 but still the administration failed to build a functionally competent site that had the potential to withstand traffic of such magnitude.[4]

Some experts say the site was never stress tested and any developer can tell you how important load testing is whenever a website is being launched[5]. The people responsible for the design of the website spend too much time designing a pretty UI but the back end and server side transaction was not handled well enough that prevented people from registration process. Another reason for the front end and back end mismatch for the site seems to be that it was built by two different contractors and there appeared to be a problem with integration testing before the site was launched.[6]

The federal government awards contracts to agencies that have some federal experience. Experienced website developers without government experience probably did not qualify under terms of the contract. This vastly limits the choice for government and can contribute to the fact that a standard and balanced website was not created.

It also looks like officials got the number of people logging to the website on the day of launch as vastly wrong. It highlights how important it is to anticipate the web traffic and design back end or have enough number of servers to balance out the load.

What Can be Done to Prevent Such Failures?

The basic architecture for a website is very simple and it can be used for building from simple to complex websites. The system is divided into three layers and each layer has servers, routers, and network connections that take care of the web traffic by load balancing, retrieve results, save information and so on. Well in reality servers, connections, routers will fail but if the design of the system is right it at best can mitigate the impact of these failures.[7]

Testing is extremely important for launching any website. It is the key to the gate of the website so as to speak of. There are different types of testing load testing, beta testing, QA testing and all of these techniques are in place for a reason so that websites don't fail. It's clear that healthcare.gov was not load tested and hence the site was inaccessible to many. There were "404 errors" that indicate web server was requesting for a page that didn't exist.[8] These errors could have been easily discovered had proper testing techniques were in place.

Websites need to be at all times ready to provide for a spike in traffic. One work around for this according to Google webmaster is to prepare a lighter version of the website. The homepage is the most requested page and if there is a spike in traffic that traffic can always be directed to these lighter versions.[9]

A website maintenance plan from the start also ensures issues such as spike in traffic and load balance is taken care of. "*For risk management, a business-continuity plan needs to be in place for any website as it ensures that the hosting service provider has a backup and maintenance plan that is in line with business service levels.*"[10]

Conclusion

In the end all the measures are only preventative but prevention is the essence of risk management. If these measures are taken care of within a reasonable time frame most likely businesses will remain unaffected. I will be watching out for how healthcare.gov rebounds from the failure it witnessed after its launch.

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