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High tech: Adapt and innovate, or risk becoming irrelevant

Posted By [joseph.pena](#) On January 12, 2010 @ 1:50 pm In [Giving'em the Business](#) | [No Comments](#)

As technology changes, businesses need to keep up. Companies that understand the fundamental product or service they deliver to their customers are built to last. They must adapt and innovate.

Innovation can be defined as something that reduces the cost of a transaction. Sometimes it's evolutionary, like replacing a mechanical typewriter with an electric typewriter. Sometimes it's revolutionary, such as replacing an electric typewriter with a word processor.

But true innovation isn't just two or three times better; rather, it's an order of magnitude better — in other words, at least a 10-fold improvement or savings. Frequently, innovative breakthroughs are only obvious in hindsight.

When energy was first distributed through the electrical grid, it was used almost exclusively to power light bulbs. The two competing technologies for delivering electricity were alternating current (A.C.) and direct current (D.C.). These two technologies were mutually exclusive and, as most of us realize today, A.C. won that battle.

Over the past few years, a new model has begun to emerge in high tech that is very similar to the electric grid development a hundred years ago.

Electric utilities

What is quickly forgotten is that, 100 years ago, factories requiring electricity were built near streams or rivers in order to provide power to their generators. Over the years, as electricity became a utility, the location of a factory requiring electricity no longer made a difference since any building could be connected to a utility pole

Computing utilities

Over the past few years, a similar situation is occurring in high tech. Manual and digital computing power is becoming a utility that goes beyond the cloud computing and storage services detailed in this [SDNN article](#) [2].

Web services, which allow computer-to-computer interaction over the Internet, are becoming more and more popular. Unlike competing A.C. vs D.C. technologies, web based services can be used to augment both mechanical and digital business processes and infrastructure.

Amazon web services

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[1]

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the click of a mouse, or automatically, by computer servers. Here are just a few.

Mechanical Turk

The Mechanical Turk web service allows the automation of the process of solving problems that can't be solved by computers. In other words, you can outsource a task to a human workforce and set your own price or, if you're looking to earn money then you can get paid to work on other's tasks. Amazon charges a 10 percent commission to the price that is paid to someone for completing a task (there is a half penny minimum charge).

Sample tasks for Mechanical Turk:

- Screening digital race photos from 5Ks or marathons and manually entering the runner's bib number for a couple cents per photo.
- Web site beta testers for 25 cents per task. For example, visit a website, create an account, and report feedback.
- Proofread text for 5 cents per page.
- Answer survey questions for a penny per question. This is very popular with grad students who need to generate research data.
- Turn a written article into a spoken MP3 file (podcast) for \$1/five minutes of recording.
- Beta test hardware, debug it, and write up a report for \$30.

More info on Mechanical Turk is available [here](#) [3].

Fulfillment Web Service (FWS)

This web service is ideal for companies that can't store inventory "on location" and drop shipments (shipments sent directly from the manufacture or wholesaler to the customer on behalf of the retailer) aren't an option.

With FWS, you can have your company's manufacturer ship your inventory, in bulk or individually, directly to Amazon's warehouse for storage and order fulfillment. You can sell the items either through Amazon's website or through your sales channels such as your own Web site or call center. Amazon will pick, pack, and ship your items using your company's packing slips and shipping labels, which creates a nearly virtual business. You are billed based on the size and weight of your inventory as well as how long your inventory is stored.

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OPINION



Joe Moreno writes about high tech issues.

More info on Fulfillment Web Service is available [here](#) [4].

Database storage

Amazon offers two types of database storage: SimpleDB and Relational Database Service.

It has often been said that the world's most popular database is the Excel spreadsheet. Although spreadsheets were designed as an accounting worksheet, we frequently use them to track data in rows and columns like a database. We can sort and filter data in a spreadsheet, but one spreadsheet does not relate to another one in a traditional database sense. The benefit of this simplicity is that it allows fast access to data. Think of SimpleDB as a mini-database for a computer server that is billed according to the time it takes to process a query plus the amount of storage used.

More info on SimpleDB is available [here](#) [5].

Relational Database Service (RDS), which is Amazon's most recent web service, was launched about 10 weeks ago. RDS is a relational database management system (RDBMS) in the cloud. It uses MySQL as its database engine and it seems likely that other database engines such as Oracle, Sybase, or DB2 may soon be available. This service, which is billed by the hour and for storage used, is ideal for companies that need a RDBMS but don't want to install the software and patches,

or maintain the underlying hardware.

More info on RDS is available [here](#) ^[6].

Too cheap to ignore

Amazon is the current leader when it comes to turning computing into a utility that is delivered over the Internet. The beauty of Amazon Web Services is that each service is “pay by the drink” meaning that you don’t pay when you sign up, but, rather, you only pay for what you use and no contracts are required. The first three months I began using Amazon Web services I was billed 5 cents, 6 cents, and 9 cents. I can’t believe that Amazon charged my credit card less than a dime each month and still turned a profit.

Just a taste

This is only a partial list of the web services provided by Amazon. Amazon also offers a content delivery network (CDN) and a data transfer service to name a couple others. The complete list of Amazon Web Services can be found [here](#) ^[7].

Amazon is just one example of an innovative company that has adapted to meet new needs of its customers. What are some of the others? Let us know in our comments section below.

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[1] Image: <http://www.sdn.com/sandiego/2010-01-12/blog/giving-em-the-business/high-tech-adapt-and-innovate-or-risk-becoming-irrelevant/attachment/business-amazon-web-services-moreno1>

[2] SDNN article: <http://www.sdn.com/./././././././sandiego/2009-12-08/blog/giving-em-the-business/high-tech-what-is-the-cloud-in-web-20>

[3] here: <http://aws.amazon.com/mturk>

[4] here: <http://aws.amazon.com/fws>

[5] here: <http://aws.amazon.com/simpledb>

[6] here: <http://aws.amazon.com/rds>

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