

How Many Phone Lines Do I Need?

One of the most critical questions to be answered by any business concerns the optimum number of phone lines. Install too few phone lines, and customers who can't reach you will call your more accessible competitors. Install too many, and precious dollars that could be used for marketing, staffing, or equipment upgrades instead is paid to the telephone company. How do you know when you've struck the right balance? In the words of that great baseball player and philosopher, Yogi Berra, "You can observe a lot just by watching."

If you're hearing frequent complaints about busy signals from customers or employees, you most likely have a problem. On the other hand, if no one ever gets a busy, you're probably paying too much to the phone company, but how can you know for sure?

There are a number of tools available to gain a more scientific answer to the question. For small business users, (generally 10 phone lines or less) the most cost effective tool is a telephone company Busy Study. For a nominal fee, usually \$50 to \$100, your local phone company will monitor your lines for a period of time to determine the number of busy signals you are receiving by hour of operation. (A few telephone companies will still perform this service at no charge.) Telephone traffic is engineered around the most active hour of the day (also known as the "busy hour"). Therefore, your analysis should concentrate on the busy hour. Generally speaking, if more than 10% of the calls presented to your phone system in the busy hour are busy signals, you need more phone lines. If there are no busy signals at the busy hour, you probably have too many.

Larger users, or small users whose business is too telephone intensive to rely solely on the telephone company may want to purchase a traffic engineering program. Such programs mainly use two statistical modeling principles, the Poisson Distribution and Extended Erlang B analysis to predict the number of phone lines necessary to handle a given number of calls. When used with a telephone system that collects telephone call data, these programs can provide a very precise estimate of the phone lines required to cost effectively handle your business. A simple program will cost less than \$1,000. More sophisticated programs can run into the 10's of thousands. Regardless of the level of sophistication, these programs provide highly reliable estimates which are easy to fine tune to individual needs. One excellent source for traffic engineering programs is Telco Research Corporation (www.telcoresearch.com).

The process outlined above will work well for established business systems, but how can you design a new system to be efficient? Again, there are no hard and fast rules, but there are some reliable guidelines. The first question to answer is what type of phone user you are. For example, is yours a retail business where most of the traffic is "walk in."? Is it a factory environment where phones are used mostly for internal communications or outbound calls to suppliers? Is it a traditional office environment, where clerical and administrative workers answer calls from customers and talk to suppliers, or is it a phone intensive environment where telephone salespeople or service technicians spend 80% or more of their business day making or receiving customer calls? Once you've answered this question, you'll have an idea how many lines you need.

For instance, in the first example, a retail environment with mostly walk in business, a ratio of one phone line to every 30 employees, with a minimum of two lines per location is probably sufficient. In a factory environment, the ratio would be comparable. If few or no customer calls reach a factory location, a ratio of one to 40 or one to 50 might even be appropriate, bearing in mind that two lines should be a minimum in any business environment.

In a traditional office environment, a ratio of one phone line to 20 employees is usually a good place to start.

In the phone intensive environment of a sales office or technical help desk, the ratio reverses somewhat. In these environments, it is advisable to have a ratio of 1.1 or 1.2 phone lines per employee. In this way,

phone lines, which are critical to revenue generation, are always available to provide that revenue opportunity.

It's important to remember that these are only guidelines for system design. Once the system has been in and working for a period of 2 to 3 months, it is highly advisable to order a telephone company busy study and, if they're available, review reports from your telephone system to make certain that you've optimized your phone lines. That way you can be certain that your phone system is doing a great job for you.