

# THE ENTREPRENEURIAL PHYSICIST

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When I was very young I collected wildflowers at our summer cottage. I then went around to various family members and invited them to pay to have a peek at my floral arrangements. I had mixed responses depending on the attitude of the people I approached.

I did learn some very valuable lessons during that exercise which have stood me in good stead over the span of a lifetime in sales and consulting.

I was fortunate in that I had a talent for selling and have done so in various capacities throughout my fifty-year career in the Radiation Sciences. The following points are what I have developed as my Fourteen Commandments that are vital to any sales, whether you are selling knowledge or products. To succeed and thrive, your business acumen must be based on these foundations.

**1. Be Open and Transparent with Employers, Clients and Customers.** Before any change in your career path, make sure you have covered all the bases with your present employer or with anyone else with whom you have business dealings of any sort. You must be open and transparent. In other words, don't give up your day job for the enticement of a lucrative but short-lived contract.

It is best to have a hard copy of your present contract so that if any discussion arises you have proof that this was discussed and cleared before any dissension arises.

**2. Be Scrupulously Honest.** Always. It is a small world and often separated by very few degrees. Your reputation as a consultant will be compromised if you are perceived as being even slightly ambiguous.

**3. Be Very Reliable.** If you have an appointment and have set a time, then plan to arrive at least 10 minutes early. This is vitally important. If you are held up in traffic or by unforeseen circumstances, then call in at least ten minutes prior to your expected time of arrival. I do

this even if I am going to be a few minutes late. Your client will (presumably) be ready and waiting and it is only fair to let them know.

**4. Communicate with All Parties.** Ensure that everyone is in the loop at all times; talk with everyone in the area. A large hospital hired me to ascertain why the readings on the personnel radiation dosimeters had suddenly escalated. It was only through a chance discussion with the department housekeeping personnel that I discovered the solution to the problem.

**5. Respect your competition.** Remember they are as determined to make a success of their business as you are and they have to buy groceries too. If you get the contract, analyze what you did correctly. If you didn't win the contract, learn from the experience and identify what you could have done differently.

**6. Don't sell yourself short.** It should not cost you money to achieve a contract. When you are bidding on a contract there may be another physicist or company bidding as well. Make sure you have priced your quotation fairly, allowing yourself some "wiggle room" and then hold to your price.

**7. When you are initiating a contact, your "sales pitch" should always include the added benefit of your expertise.** Someone else may cost less but may not offer all the credentials that you can offer at the end of the report.

**8. Call in a colleague with different skills** if you find the job takes you beyond your area of expertise. Sometimes you may need a machinist or an engineer. Over many years you will build up a list of reliable associates who have expertise in many areas and who are willing to work with you provided you acknowledge them in your final report and even pay them for their assistance if that is appropriate.

**9. Be creative.** Think outside the box. Find a solution to the problem that may be unusual or unique. A situation arose at a veterinary clinic where the installation of the dental x-ray unit was in question. There was simply nowhere to put the arm of the unit until we decided to hang it from the ceiling. With the help of the installation engineer and some creative wiring, we made it work.



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## SUMMARY

In this article, the lessons learned from a lifetime of working as a physicist and an entrepreneur are discussed.

**10. Keep the main objective in mind.** If you are called in to a very messy situation, remember that there are always unscrupulous people in any field. Do not criticize your competition, ever. You are there to solve a problem. . . or several problems. Also, you are there to alleviate the stress caused by someone's bad decision in the first place. Any negative comments are just not appropriate.

**11. Speak to your client at their level of understanding/expertise.** If the work you are doing requires a fairly high level of expertise, break it down into language that your client will understand. Sometimes this is difficult but analogies, no matter how farfetched, will help immensely.

**12. Always make the resolution of the situation practical.** To the client, staff and the vendor you are the content expert. Always move forward to a positive resolution. If the person you are given to work with is clearly out of their depth, then quietly move to the next level in the account's hierarchy. Everyone will thank you later.

**13. Sometimes there is no positive solution** other than replacing the faulty equipment and starting again. Communicate as you are progressing through your research of the problem. Present your report and make yourself available to back up your findings to whomever contacts you.

**14. Charge fair prices.** Yes, you have worked hard to arrive at a position of expertise and the cost of that education must be factored into your quotation. Remember that with budget limits to meet, your potential clients may be forced to accept a less expensive quote just because you have priced yourself out of the marketplace. Repeat business will only come if the clients feel that they are receiving fair value for the money they pay.

Finally, one must be adaptable and open minded when faced with unusual problems. As a radiography consultant, I was called in to a veterinary hospital to identify some unusual artifacts that had shown up on the client's film images over the previous month.

When I arrived, the veterinarian was distressed as she had just locked herself out of the hospital. We were miles out in the

country so there was nothing to do but climb in through a window. I was the slimmest and youngest of the three of us, so with the help of a milk crate I slid through the window.

The film images were presented and they consisted of irregular light and dark densities overlain by curious small dark pinpoints in groups of four. Some of these pinpoints were elongated to about 2 centimeters. The black pinpoints were located in random order over the images as were the irregular light and dark densities.

After exploring all the usual areas to ensure that the film cassettes and unused film were not being fogged, I turned to the darkroom. This turned out to double as the furnace room. The solution to the problem became clear when I looked at the main furnace duct exiting the furnace. The box of film in use at the time was stored on top of the furnace duct. This only became a problem when the furnace was turned on in October and the intermittent irregularities reflected uneven increases in base fog on the film as the furnace heated the duct.

The pinpoint artifacts? They were made by the clinic cat who found the duct was a little warm so he was lying on the box of film and, as cats will do, stretching and flexing his claws through the box of film and its protective covering creating the pinpoint artifacts with the slight elongations.

Lessons learned? The solution will always be unique to the specific account. The consulting itself may take some unexpected turns which require you to be both flexible and adaptable, such as climbing through a window to arrive at the source of the problem. The resolution to the problem may very much depend on the attendance of the consultant at the account rather than just a review of images on the computer and a telephone call.

There is definitely much satisfaction in consulting with clients and solving challenging and unique problems. Also, if you are so inclined you are setting yourself up to becoming a valuable asset after you retire from your day job.