Estimation Games

- Estimation as politics
- Games - a life experience
- Basic Games
- Advanced Games
- Timeout

Home

Our Company

Public Workshop Schedule

In-house Delivery and Consulting

Workshop Descriptions

Site Map

Articles

The apparent inability of I.T. people to accurately estimate the effort, time and cost of I.T. projects has remained an insolvable problem. In interview after interview with business people, our group has found that poor estimation is one of the major factors in the breakdown of relationships between I.T. people and their clients.

In the past, the inaccurate estimates of I.T. people was seen more as a reflection of the newness of the industry and, as documented, a result of the power relationships between business clients and their I.T. service providers. In many organisations, I.T. people traditionally used their specialist power-base to dominate the relationship with their business clients. Indeed, many of the business people we interviewed had been blamed by their I.T. people for the poor I.T. estimates.

However, in the age of outsourcing and increased competition, the need for I.T. people to more accurately estimate the costs and time-frames for new product delivery has emerged as a critical survival factor for many I.T. groups.

Simply, poor estimates lead to a lack of credibility and poor business relationships. It is obvious that an internal I.T. group with low credibility has become a candidate for outsourcing.

Estimation as politics

While hundreds of articles and books have been written about software estimation and the related topic of software metrics or measures and organisations such as the International Function Point Users Group [IFPUG] and the Australian Software Metrics Association [ASMA] devote hundreds of hours in research and development into estimation techniques, almost all research into improving software estimation miss a vital point :

it is people who estimate not machines.

This simple point under pins the real problem in estimation. In fact, our research has shown that within certain conditions, I.T. people are pretty good at estimating. Further, our research has shown that the major precondition for improving estimation accuracy is the existence of an estimation environment free of inter-personal politics and political games.

It is our belief that over the 30 plus years of commercial computing has developed a series of sophisticated political games that have become a replacement for estimation as a formal process. More importantly, like all good games they are passed on from generation to generation by "children" I.T. people learning from "adult" managers who of course learnt the games from their adults when they were children and so on.

Of course, none of the academic institutions [our preschools] prepare the new I.T. graduate for these games but rather, leave it to the cold reality of the work environment to teach graduates [the new children] that estimation techniques are only good for teaching in university.

The good news is that I.T. can estimate better. The bad news is that there are lifetimes of games and refining of games that have to be avoided to do this.

Games - a life experience

The introduction to estimation as a series of games begins long before people commence their computing careers. In fact, the concept of estimation as a game is introduced to all of us as children :

"Dad, could you please help me get this out of the cupboard?".
"OK, sweetheart, I'll be there in five seconds".

Of course, the minute estimate is completely meaningless. In fact, the accuracy of the parent's estimate is probably inversely proportional to the importance of what Dad is doing at the time. It is not too long before most children recognise this and begin to play the estimate game back.

"Dad, could you please help me get this out of the cupboard?".
"OK, sweetheart, I'll be there in five seconds".
"OK, Dad, five seconds ... one, two, .."
"Arrrgh ! Allright, sweetheart, I'm coming soon"

Of course, the kid's counting out the seconds results in Dad giving a much more realistic estimate... "soon". The lessons of estimation as a game have begun.

In our experience, there are a well-known series of games that are played as estimation. These fall into two broad categories :

Basic games - these are learnt first and are often the only games played by I.T. people. Most novices learn the basic games quickly ;

Advanced games - these cannot be learnt until the basic games are perfected. They are generally used by "expert" project managers. Often, they are hidden from the novices until they have survived and learnt the basic game.

Basic Games

The following are the most well-known and practised of the basic game set :

Doubling and add some

I was taught this game in 1968 by Bob Smyth who, in those days, was the smartest person I had ever met. Simply, you figure out [however you can] what you think the task will take and then double it. So a 5 day task is quoted as a 10 day task.

Like all good games, I learnt the lesson of why you play when I submitted my first ever estimate to my big boss and he immediately halved it. Later, I realised there was a better version of this game. I quadrupled my initial estimate so then, when my boss halved it I still had double [which surprisingly I always needed]. Bob also showed me that by adding some float or fudge factor usually around 20 - 40 % if I was halved, I still had some slack up my sleeve [which surprisingly I also always needed].

Of course, the problem with this game is that everyone knows it why novice players are often caught out by bosses/clients who cut the estimate given by a novice by 3/4 when the novice has only doubled their bid. The other problem is that it never stops. In a version of bluffing as seen in poker, no one knows who has doubled or who have multiplied by eight

and so on.

Much later, when I was researching material for project management, I found that time and motion studies in the 1950's had shown that the average lost time [meetings, waiting, talking and so on] in office work was around 50%. So the doubling game was based on some sound research.

Reverse Doubling Option

This is the reverse of the Doubling Game. Simply, the boss or client doubles the estimate that he or she is about to give management or business clients and informs the project manager or programmer analyst that the timeframe is half the timeframe that the boss has told the clients. By telling the team that the new system is required by January 1 when it is not really required until March 1, the boss has overridden any attempt by the team to double because he/she has already done it.

Then, when the team misses the January 1 deadline, the Double Dummy Spit game [see later] can be brought into play.

The Price is Right/Guess the number I'm thinking of

This game is a very interesting one as it builds on the lack of trust that underlies the Double and Add Some game. As discussed later, it is most powerful when used in conjunction with the Double Dummy Spit ploy.

The Price is Right game is always initiated by the boss or client and follows a well-structured sequence.

Boss: Hi, Mary. How long do you think it will take to add some additional customer enquiry screens to the Aardvark System?

Here the boss or client is being very nice almost friendly.

Mary : Gee ..... I guess about 6 weeks or so.

Boss : WHAAAT!!!! That long!!! You're joking right?

- *This hostile reaction by the boss is often supported by various negative body language signs such as noisy sucking-in of breath, furrowed forehead, hand slapping head, falling off the chair, etc.*

Mary : Oh! Sorry. It could be done perhaps in 4 weeks.

- *Here the analyst/programmer victim is now on the defensive and is trying to calm down their boss*

Boss : 4 WEEKS??!??!? I don't know how XX is going to take that when they hear it's going to be 4 weeks.

- *The invocation of XX [who is usually a very important person] is a classic use of the X Plus Game - see later.*

Mary : Well, let me think ..... OK, I'll do it in 3 weeks.

Boss : Great. I'll let XX know.

The boss has won the game.

Now the serious problem with this game is that it is a brilliant example of Win/Lose. The

reality is that the boss has already promised the client XX that the enhancement will be done in 3 weeks but the power of the game is to get the project manager or victim to guess the bosses estimate and then say the estimate [preferably in the presence of witnesses such as other team members]. Notice, it was Mary who said 3 weeks not the boss.

In effect, if the estimate is wrong then Mary is to blame as she said it. The boss who made the bad estimate is politically "in the clear" . This is a truly excellent game for bosses.

Double Dummy Spit

For international readers, this game's title comes from a wonderful Australian slang phrase - spitting the dummy. This phrase is drawn from the habit of babies who spit out their pacifiers or dummies when they get angry. So when someone says "Rob really spat the dummy at the meeting" it means Rob got really angry.

The Double Dummy Spit is a powerful addition to all estimating games and again follows a very predictable pattern.

Boss : Well, Mary, it has been 3 weeks. Are the new Aardvark screens finished?

Mary : Err.... not quite, boss.

Boss : @@##xxx%%% [censored]. You mean its NOT finished? WHAT AM I GOING TO TELL XX. You have let me down and performance appraisals are coming up.....

The boss here is screaming, getting red in the face, drooling and is performing the first Dummy Spit.

Mary : Sorry, boss, I'm really sorry. I really tried.. I don't like letting you down. I worked 7 days a week and 10 hours a day. Sorry.

It is important in this game that Mary looks sheepish, apologises a

lot and generally does a lot of butt-kissing.

Boss : Well, Mary, we all make mistakes. So, how much longer do you need?

The Boss has calmed down - getting ready for the second Dummy Spit.

Mary : Another 2 weeks at the max.

If Mary is experienced she is ducking under her table at this point.

Boss : 2 WEEKS @@@##$$$!!! [censored]

Second Dummy Spit.

The X Plus Game

This game is very important in all large organisations and is rooted in the hierarchical power base.

Basically, the person who is either requesting an estimate or informing the team of an estimate/deadline that has been already decided, invokes or blames someone who is "higher up" in the organisation for the fact that the pressure is being put on the team.

Boss : Look, people, I'm sorry to tell you that you have only 4 weeks to develop the new operating system but, Ms. Bigshot has demanded it by then.

The key to his game is that the Boss is a Level 22 [X] and Ms Bigshot is a Level 32 and is much higher in the organisation [X Plus] than the boss.

It is our experience that the person who is the X Plus rarely has even been informed of or involved in the game. We reviewed a project that was in serious trouble trying to meet a deadline "imposed" by the C.E.O. When we interviewed the C.E.O. he wasn't aware that the project even had a deadline and he didn't require one for the project! One of his managers had used him in the X Plus game.

Spanish Inquisition

This is a very nasty little estimating game. The general form of this game is that a meeting is called to discuss some innocuous topic such as what cookies are to be bought for the coffee breaks. The underlying purpose of the meeting is to get the victim into a room with lots of witnesses to provide the peer-group pressure.

Boss : Thanks to all of you for coming. Well, we are here to discuss the cookie situation which has become very serious as our costs are too high for our business clients and they want increased productivity and lower fees. Oh! Before I forget. Mary, they have asked for more screens in the Aardvark System how long will it take you to develop them ?

Everyone in the meeting turns to look at Mary. Some are drumming their fingers on the table as they wait ...

Mary : Aargh ... about 6 weeks.

Having survived and mastered the basic estimating games, some I.T. people soon graduate to the more sophisticated and dangerous Advanced games.

Advanced Games

The Advanced games are more powerful than the basic games but are also more dangerous. Use of Advanced estimation games have exposed some of our client organisations to serious financial and publicity problems. Most advanced games are used in combination with each other to increase their effectiveness.

Low Bid/What are they prepared to pay

This game is a powerful extension to the Reverse Doubling game. It involves the project manager undertaking a series of estimates that reveal the new system requested by clients is very large and expensive [say $10.000,000].

Suspecting that the $10 million is going to be too much for the business group and wanting to undertake the project because it involves both a high organisation profile and interesting new technology, the project manager deliberately reduces the estimate to some number [say $4 million] that he or she believes the business client will accept.

Then using the Gotcha game [see below], the project manager locks the clients into spending another $6 million [thus making up the $ 10 million] either as funding for the usual "scope extensions" or by adding "enhancements" or "additional features".

The power of this game is its simplicity.

Gotcha/Playing the Pokies

Psychological studies of gambling often refer to the way in which gamblers keep investing "good" money after "bad" in an attempt to make up losses. Playing Poker machines, you have put in $50 dollars and then get a $10 dollar pay-out which keeps you playing as you

spend another $ 50 to get back your original $ 50 which you have already lost. As all good gamblers know, there is a time to walk away.

The Gotcha game in estimation uses the same principle with great effect in most cases.

In our example of the Low Bid game above, l the business group having paid $ 4 million into the project with little to show for it is now faced with the Poker machine dilemma. Do they walk away from their investment or do they put another $ 6 million in to get the system? While it doesn't seem smart, most groups will ante up the additional investment. After all, there are too many egos and too much emotional commitment in the project to date.

Extremely advanced estimation game players also learn that the best option when playing the Low Bid/Gotcha game is to delay telling the client that they need to spend additional money until the last moment and to repeat the process many times using smaller increments of $1 million instead of a big $ 4-6 million hit.

Client : Hello Project Manager, will my project be delivered next week as promised? After all you have been telling me that things have been going well for the past year and my $ 4 million that I gave you has been used up.

P.M. : Well, I have some bad news and some good news.

Client: Uh huh. Give me the bad news.

P.M. : The bad news is that the system won't be ready next week.

Client: WHAAAT! $$#@@@!!!!!

Usually, the Double Dummy Spit game is played here.

P.M. : Wait. The good news is that things are going well and if you can find another $ 1 million we will deliver in 2 months.

Client : Well I guess so... I don't have much choice do I?

Repeat until $ 6 million is spent or project manager and/or client is fired - any way the client looses.

While many people would think that project managers playing this game get fired a lot, the reality is that many organisations recognise that the loss of a project manager can lead to serious project problems. Given that this game is played by experienced project managers, they are often too clever at political games to be fired.

Smoke & Mirrors/Blinding with science

This advanced game is helped by the development of complex estimation techniques such as Boehm's COCOMO, Putnam's SLIM and Function Point techniques.

In effect, the project manager uses complex estimation models that are highly mathematical and complex. The raw estimating data is completely rubbish but the application of "scientific" technique makes the estimate appear professional and believable.

Client : How long will the Aardvarker System take ?

P.M. : Let me see. You have 22 External Inputs, 4 Logical Internal Files, 5 concatenated Enquiries ... hmm.. that's 8 by 24 plus 12 minus risk adjustment, add the Rayleigh Curve simulation, subtract because of the hole in the Ozone layer .... 50 weeks !

Client : Awesome!

Of course, this game is helped if the calculations involve a massive mainframe simulation or better still, a GUI system on a powerful laptop.

Really advanced versions of the game involve another advanced game - false precision.

False Precision

This game is universal especially in the area of politics, statistics and opinion polling. In all political contests, the game of false precision is played and hidden by T.V. analysts.

T.V. Jock : In a survey today of voters, 25% said they would vote for the Larger Chicken Party and 22% said they would vote for the Smaller Pig Party . Also today, the Bureau of Numbers and Counting reported that 1,023,678 people were unemployed.

So after being exposed to this for all our viewing life, it is an easy game to learn and play.

Client : How long will the Aardvarker System take ?

P.M. : Let me see. You have 22.1 External Inputs, 4.8 Logical Internal Files, 5.001 concatenated Enquiries ... hmm.. that's 8.02 by 24.002 plus 12.4 minus risk adjustment, add the Rayleigh Curve simulation, subtract because of the hole in the Ozone layer .... 49 weeks, 1 day and 3 hours plus or minus 1 hour !

Client : Totally awesome!

Of course, readers will understand that at the time the "scientific" estimate was made not even the client clearly understood their own requirements.

Timeout

So, what are you to do when these games are being played on your project? The following are some strategies to deal with them. They may not always work and they are a bit risky. However, nothing is as risky as being responsible for a project where your estimates were completely manipulated through game playing.

Let's Play

The first thing is to learn to recognise them as games. Let's assume that your manager is applying pressure to you for an estimate using the Price is Right/Guess the Number game.

Manager : OK. How long do you think it will take ?

You : I guess about 6 weeks

Manager : WHAAAT. 6 weeks !!!

You : Wait - I know this game - it's the Price is Right game. I love it. After we play it, can we get back to estimating? How about 2 days ????

That at least should get the manager thinking as it is probable that he or she is even aware that they are playing the game - they learnt it years ago.

What Do YOU Think, Boss?

This is a very powerful game-stopper. When the boss tries to get you to estimate and then

begins playing games with your numbers simply ask the boss :

"Boss, what do you think is a reasonable estimate for the task?"

If they are game-playing, they'll back off because they do not want to say the number as that will mean they have now made a commitment.

Blame Your Brain

This is a powerful but risky play which may save you in moments of desperation. I learnt this trick from our daughter who used to blame her brain for making her do naughty things. "Sorry, Dad, my brain made me dress the cat up in doll's clothes."

Boss : Stop all this stuff about not knowing. I order you to give me an estimate.

You : Boss, I'm sorry. My flesh is willing. My body wants to know but .. my brain just can't come up with any number. I'll have to get a new brain. Sorry.

Let's face it. They can fire your body but they can't fire your brain.

Roll the Dice

This game stopper requires some props but gets the message across very quickly that your estimates are being made up.

Boss : Stop all this stuff about not knowing. I must have a number now.

You : No problemo, boss. Let me bring out my state-of-the-art Estimation Tool.

At this point, you get three dice and roll them on your desk.

You : It's going to take 13 , boss.

Meltdown

This is another useful ploy that must be used sparingly otherwise you could end up in hospital.

Boss : Stop all this stuff about not knowing. I must have a number now.

You : Boss, I'm not feelin' too well. CRASH

This is the sound you make as you fall off your chair or slump onto your table. The more dramatic the better.

It is obvious that this ploy will buy you more time.

Just Say NO

The ultimate ploy against estimation games is to simply not play them.

When someone is pressuring you for an estimate try this:

You : Look. Right now I am not sure how long it will take. Just give me some time and I'll be able to get back to you with a much better estimate than the one you would get from me now.

In many cases, even a hour's delay will give you a chance to talk to your colleagues, get a better understanding of what is required and some of the risks involved in delivering the

software to your client. What is important is to buy time for thinking.

It's time to stop playing and start estimating.

As discussed at the beginning, these games have been around for over 30 years and there is no sign that the passing on of these games from generation to generation is stopping or even slowing down.

We must all become part of the elimination of these games. They hurt our reputation with our business clients [many of whom have also learnt to play them]. They result in our organisations investing money and time in projects that are not good investments. Most importantly, they screw up our projects and we all have to work hard and reduce quality to justify them.

Even if you can't stop your managers and clients from playing estimation games you can certainly stop playing them with your colleagues and team members.

Maybe there will be a new generation of I.T. people who are not taught these games. It's up to you.