

# Design for Wow - An 'Exciter' Hypothesis

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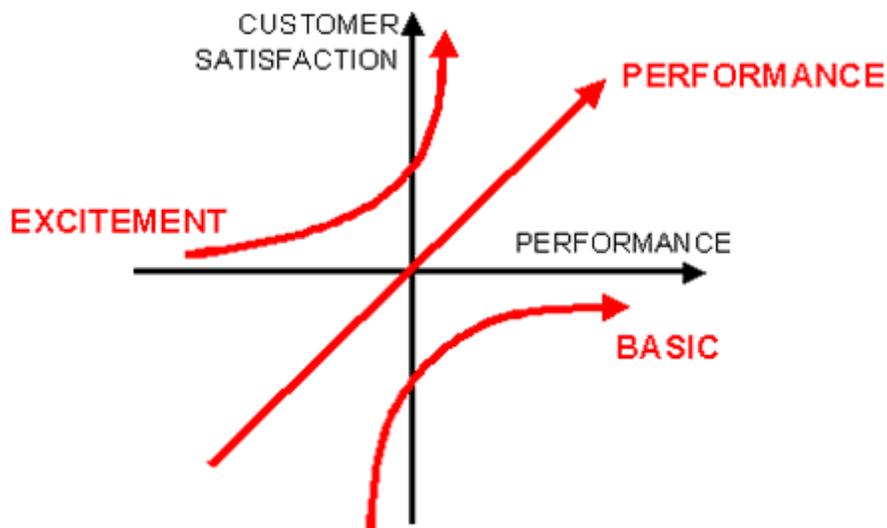
*"All models are wrong, but some are useful"*  
George Box

## Introduction

The Kano diagram is a well established and frequently discussed concept in many innovation circles, including TRIZ. It offers a very elegant model of what prompts customers to select one product or service over another. The model implicitly suggests that those things that 'excite' customers hold the key to what will be successful versus what will not. Beyond this conceptual definition, however, there is a considerable gap between the knowledge that 'excitement' factors are important and knowing what to do to actually achieve them. The theme of this short article is to suggest that in many senses 'excitement' can be systematically designed.

## The Kano Diagram

The Kano diagram - Figure 1 (Reference 1) - offers an elegant means of discriminating between different features of design. The diagram is usually drawn to show three main classes of design feature.



**Figure 1: Kano Diagram**

Without wishing to repeat what many readers of the Journal will already be very familiar with, the three basic classes are.-

1) Basic features - things like the starter motor on a car - no-one will buy a car without a starter motor, in the same way that no-one would be any more likely to buy a car that had two. Or one bigger one.

2) Performance features - things like the acceleration capability or braking performance of a car where the more of it there is, the happier the customer is likely to be. The correlation between performance and customer satisfaction is essentially linear in nature.

3) Excitement features - things that the customer didn't expect to be present in the system, and is 'excited' to learn are there. Sticking with the car analogies from the previous feature classes, current in-car exciter are things like GPS (although this is already rapidly heading towards being a 'basic' feature in luxury cars), pre-warmed seats, sounds systems that modulate volume automatically depending on the presence or otherwise of noise, personalised key-fobs and just about anything that your car doesn't have that you think would be really neat if it did.

This last definition really gets to the crux of the problems that very quickly emerges once the importance of the 'excitement' features is recognised; very simply, what excites one person will often not excite someone else. Or, more seriously, can it ever be possible to define something that would excite everyone. In other words, finding the 'excitement features' is generally considered to be both highly desirable and even more highly unpredictable.

Welcome, then, to a proposed 'Exciter Hypothesis'.

### **An Exciter Hypothesis**

Put simply, the proposed exciter hypothesis is about systematically identifying and realising the characteristics that make customers 'excited' by a product or service. If this sounds like it cannot be possible, it may be disturbing to learn that the hypothesis is actually so simple that as soon as it is defined, I think it will appear 'obvious'.

The proposed exciter hypothesis is that **things that excite customers are things that solve contradictions.**

I suggest that to try and prove this hypothesis would be both impossible and futile, and so I will not even start to make an attempt. What I will do is suggest you do the following;

1. think of the last thing that made you go 'wow' - it could be something in a film, or some feature of a product you saw in a shop or some extraordinary piece of service you received in a restaurant; anything in fact that excited you.
2. Work out what contradiction has been solved.
3. If you can't find what contradiction has been solved, go to step 2.

I also make the following analogies that I think are helpful in understanding and at least partially substantiating the hypothesis:

Jokes. Jokes are literally all about contradictions. What makes us laugh at a joke is the resolution of a contradiction - the joke teller has sent us in one direction, while the punch-line resides in another. We laugh when we resolve the difference between the two directions. Now think about

one of the reactions you had when you saw one of the 'wow' things you pictured in the exercise above. It is highly likely that one of those reactions was that you laughed.

'Never seen that before'. You are very unlikely to be 'wowed' by something that you have seen before, in the same way that you are very unlikely to laugh at a joke the second time you hear it. Things you have not seen before tend to be things that have made a jump from the norm. Another way of saying 'a jump from the norm' is moving to a new s-curve. The primary mechanism by which systems jump from one s-curve to another is the successive emergence and resolution of contradictions.

Freebies. Occasionally, some of the things that excite us or make us go 'wow' are things like discovering an unexpected feature that we 'haven't paid for'. For example, I bought a coat a couple of winters ago that I seem to still be finding useful pockets in that I never knew were there when I bought the coat. While it is not immediately obvious that these 'freebie' type solutions solve a real contradiction (certainly not on the part of the supplier anyway), they do solve a customer perceived contradiction between what I expected to get and what I ended up getting.

### **Some Exciters**

Again, no amount of examples will ever (or should ever) convince anyone of the truth of the hypothesis this article proposes. Nevertheless, I think it is worth highlighting some of the things that made me go 'wow' in the past few months in order to show how important contradictions are in defining that wow reaction.

Humans being humans, and me being different from you, means that what made me go "wow" will probably not provoke the exact same reaction in you (although there should be at least a flicker of connection I hope). Fortunately this isn't the point of the exercise. Unfortunately, when you see some of the things that make me go "wow", you are possibly likely to think I am living in a strange parallel universe. I guess I will learn to live with this fact.

### **1) Smart Car**

I usually struggle these days when people ask me for examples of 'good design' (the reason being that nowadays I tend to see everything around me as collections of as yet unresolved contradictions rather than things of elegance or beauty), but I was forced to admit a sneaking admiration for the ultra-small Smart car that has recently taken Europe by storm. Initially, I thought that the design was merely shifting the traditional size-weight compromise to a new point, but in actual fact, it has very much solved a contradiction when it comes to occupant safety. Here, traditionally, the compromise is such that the shorter the car, the more difficult it is to protect the occupant during a head-on collision. The Smart design solves the contradiction by deflecting during impact in such a way that, instead of trapping the occupant, it moves them (Principle 17, Another Dimension) upwards and out of harms way.



## Figure 2: Smart Car Crash Impact Test

(Note how car pivots about impact point such that rear of car rises)

### 2) Crispy Microwave Fries

It is probably very indulgent for me to cite one of my own solutions as an example of a 'wow', so thankfully I can state that I had the pleasure of collaborating with good friend Barry Winkless from Ireland on this problem. Anyone that has had the misfortune to eat a French fry potato heated in a microwave oven will know that it is a generally soggy and faintly unpleasant experience. We recently worked together on the problem of making a microwave heated French fry potato with a crispy texture. Taking an attractive looking French fry out of a microwave and hearing it go crunch in my mouth definitely made me go wow. How did we do it? Answer; we solved a contradiction. A patent application has since been submitted.

### 3) Gecko Eyes

It would be very easy to catalogue dozens of solutions from the natural world that have made me go 'wow' this year. I shall restrict myself to two recent favourites. The first is the gecko eye (actually, the gecko foot is probably even more remarkable, but since I am involved in a patent using the wow I got from this, I will stay with the eye).



Figure 3: Eye of the Gecko

The gecko is remarkable in that it has been able to solve the problem of achieving excellent depth of field vision (useful for catching prey in differing light conditions) without the usual complicated mechanisms evolved by other creatures with the same problem. Nature is constantly striving to maximise the way it uses available resources. The gecko solves the vision capability versus design complexity through a pupil design comprised of a segmented edge design - Figure 3. In other words, it achieves better performance with less resources by adding holes to its pupil.

### 4) Bear Fur

The second natural wow example comes from the fur design evolved by several species of bear. The bear has a number of contradictions to live with. Most notable with respect to its fur is that it needs good insulation properties in order to help maintain temperature when the animal is static, but when it is expending lots of energy - for example when running - it needs to be able to get rid

of the heat it generates. As illustrated in Figure 4, the bear solves this contradiction using a very simple yet elegant solution involving the way its fur is profiled. In simple terms, each individual fur fibre is profiled so that it has a greater diameter at certain positions than it does at the root. The consequence of this shape is that a) it tends to 'bounce' when the bear runs (next time you see pictures of a bear running you might like to notice the way its fur moves), and b) the combination of shape plus movement creates the effect of a pump. This pump serves to move warm air adjacent to the animal's skin out into the atmosphere.



**Figure 4: Bear Fur - Overall and Close-Up**

## **5) Minority Report**

Minority Report is a recent science-fiction film based on a story by Philip Dick. The film, like Dick's stories, is crammed full of details. One of the details I particularly liked was the mass-customised, holographic advertisement that appeared to the hero as he was walking in a shopping street. The hologram knew all about the hero's background and was able to recommend a purchase that fitted with the background; the hologram was effectively walking along with the hero, talking to him (presumably in a form and voice that it knew the hero liked) while all the time being unseen and unheard by other people in the street. This was one of those moments where it felt like you instinctively knew that although this wasn't possible to do using today's technology, once a couple of mass-customization (Reference 2) and technical challenges (contradictions!) are solved, you know that someone, somewhere would make it happen.

## **6) Hot Rats**

'Wow' moments in popular music tend to be few and far between these days. People like John Coltrane and Frank Zappa tend to be two artists, on the other hand, that have learned the secret of producing such moments on a relatively frequent basis. Tracks like Peaches en Regalia and The Gumbo Variations from Frank Zappa's album Hot Rats offer excellent examples of 'wows' that result from taking musical conventions (for example the rules that say that only certain notes should follow other notes, or that there should be regularity and consistency of time intervals) and turning them upside down. This convention-busting is again all about breaking contradictions - taking established rules that say you can follow this note with any of these but not those and then ignoring them while simultaneously still managing to make great music.

**All Models Are Wrong...**

...but some are useful. In other words, it is not about whether the exciter hypothesis is right or not (actually it is probably neither - with 'incomplete' most likely to be the best description of its current state), it is about whether it delivers tangible benefit. The main and to all intents and purposes only point of this article is to implant the suggestion that customer 'exciters' are systematically achievable; that we can systematically 'Design for Wow'.

We can do this through the successive identification and elimination of conflicts and contradictions.

The Contradictions part of TRIZ offers the means of delivering precisely this kind of systematic contradiction elimination.

'Design for Wow' is contradiction elimination.

## References

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