

# The Kindle Fire:

Solid Proof that Usability is No Longer Enough!



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## The Kindle Fire Solid Proof that Usability is No Longer Enough!

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In this white paper, Dr. Schaffer addresses why the Kindle Fire has been successful in spite of shortcomings in usability.

“They are selling millions of units . . . Why? Because, success is not just about usability. We have to go beyond classic usability and consider the overall user experience.”

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The current Kindle Fire design has an awkward browser, and magazines are difficult to navigate and read . . .

But it is selling millions of units . . . Why?

Jakob Nielsen recently published a review of the Kindle Fire's usability ([www.useit.com/alertbox/kindle-fire-usability.html](http://www.useit.com/alertbox/kindle-fire-usability.html)). And I agree there are a set of design features that could be better. But then you have to ask—why did the Fire tablets sell millions of units at the end of 2011?

The current Fire design has an awkward browser, and magazines are difficult to navigate and read. There are places where the buttons are too small to easily select and where text has to be read in right-left justified, making it neat looking but harder to read.

But... they are selling millions of units... Why? Because, success is not just about usability. We have to go beyond classic usability and consider the overall user experience. Let's look at the 'ecosystem solution,' the triggers for purchase, and then the emotions during usage. I think we can see why UX teams need to think beyond ease-of-use and consider a bigger picture.



Figure 1:  
The Kindle Fire

### ECOSYSTEM SOLUTION

Today most good design ideas are not about a new creative gadget. When we do serious ideation work we no longer focus on products that stand alone. In domains from healthcare to finance (and of course media) the new business models and products are about a solution that fits together within an ecosystem.

In the early days of usability work, we often just worried about how a person would interact with a computer system. It was pretty simple. But now, all UX practitioners need to be able to model complex ecosystems with multiple actors (users), multiple environments, and multiple scenarios.

Making it even more interesting, we may also have to deal with multiple cultures and geographies. We have had to incorporate methods inspired by ethnographers (modified so they can be done in a few weeks as opposed to spending years embedded in the target context). In the end we get a picture of the ecosystem that shows the people, scenarios, environments, artifacts, and the connections and opportunity points.

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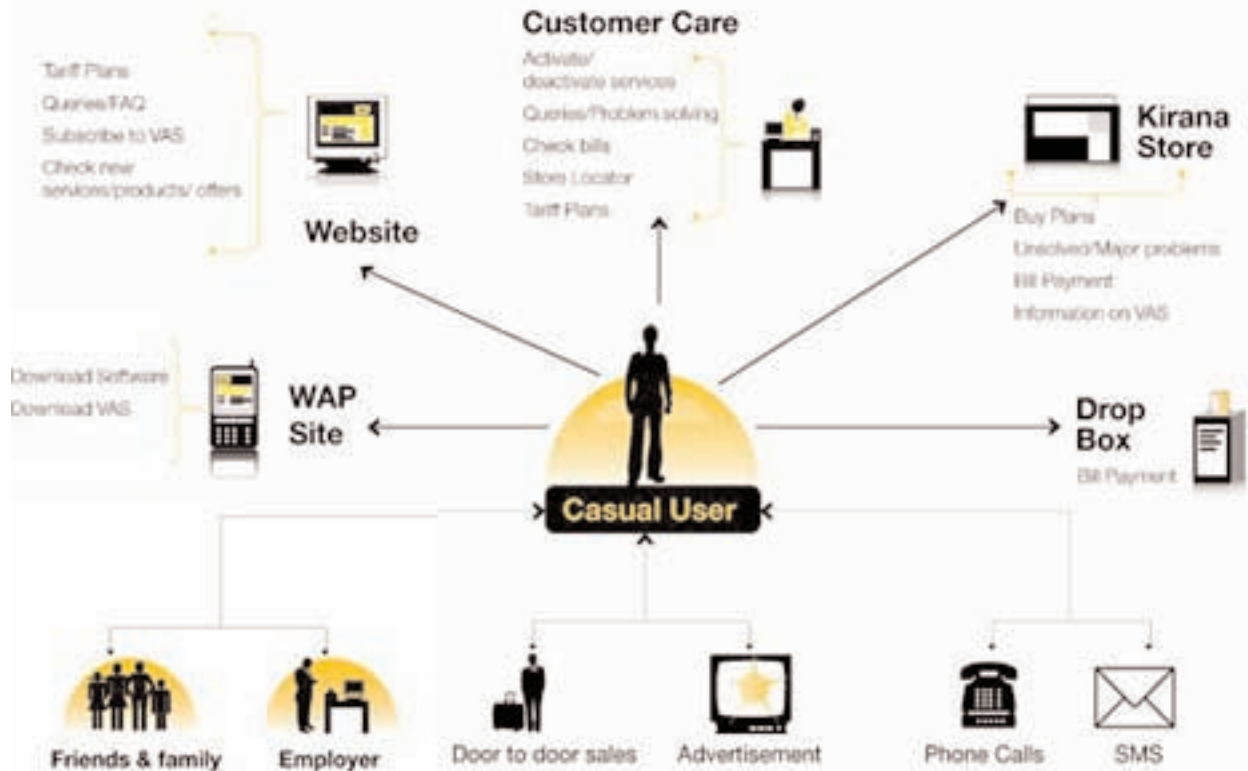


Figure 2: This is an example of an ecosystem

**In Amazon's ecosystem, you'll find Amazon books, media, and shopping. You spend \$200 and benefit from an \$80 billion organization.**

In Amazon's ecosystem, you'll find Amazon books, media, and shopping. You spend \$200, and benefit from an \$80 billion organization. You can buy e-Books, magazines, newspapers, reports, view videos, and there is even a lending library.

The Fire also does a pretty good job of fitting into the user's ecosystem. It charges with a common adapter. It fits into most pockets. You can read it in a wide range of light conditions. Content downloads at a click. And, it even coordinates if you have multiple devices so you are on the right page on every device.

### PURCHASE

We completed a series of 15 in-depth PET (Persuasion, Emotion, and Trust) Interviews. This is a modified Gestalt interview method where we probe deeply into the drives, blocks, beliefs, and feelings underlying a given decision. The sessions sound a bit like psychotherapy. As is often the case, we presented a screen display as a stimulus. And the interviewer probed about the reaction to that display.

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kindle fire  
Web, movies, apps,  
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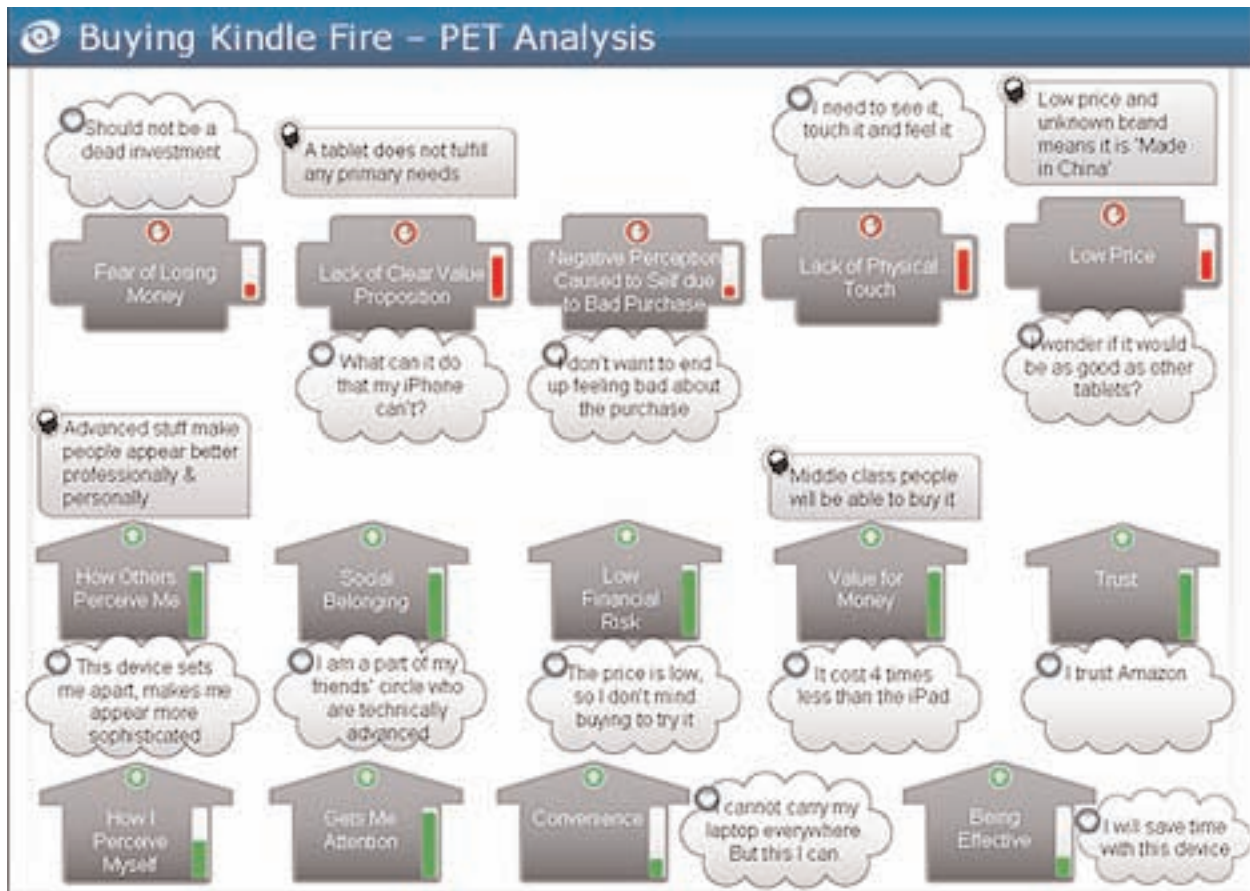
The insights gained in the interview are summarized in a 'PET Analysis' which describes the emotional schema underlying the decision.

- The drives are the arrows in green.
- The blocks show up in red.
- The colored bar in each gives a rough indication of the strength of the emotion expressed by the population.
- Beliefs are marked with the 'head' icon and feelings with the 'heart.'

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**Very much like a task analysis allows us to design for performance, the PET Analysis allows us to design for persuasion.**

Developing this PET Analysis method was central for our persuasion engineering work, as it provides a foundation for designing and evaluation. Very much like a task analysis allows us to design for performance, the PET Analysis allows us to design for persuasion. The Kindle Fire PET Analysis predicts that people will tend to want to get the Fire. You see at a distance that there are more drives than blocks, and the strength of the drives (the green bars) is more than the blocks (in red).

Besides the rough indication that people will buy the Fire, we can dig into the underlying reasons. We can see that there are a set of drives around social status and being part of a group. There are also a couple of drives around the low cost. And not surprisingly, there is a strong drive around trust for Amazon as a company.

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**With an analysis like this we get guidance on how to improve the product page and even the device.**

We can also understand the blocks, even if they are weaker than the drives. There is one concern about the functional value of the tablet, and also a concern about being a touch device without hard keys. And not surprisingly, there is a block around the low cost as users often equate high price to high value. Some users suspected it would be a poorly made device ‘from China.’

With an analysis like this, we get guidance on how to improve the product page and even the device. We could reduce the block about not being clear on the value proposition by having a testimonial about how much easier it is to read on the Fire as opposed to a smart phone. Or we could reframe the touch-screen-only issue, by showing how all the space is used for reading or watching videos and that none is wasted with infrequently used keys (after all, you use the Kindle for reading and watching, not typing).

Beyond reducing blocks, there are lots of opportunities to stimulate drives. For example, there is a strong set of drives around social drives of status, self image, and being part of a group. This could suggest making SOMETHING visually distinct in the design of the device. Apple products were partly popularized by the informal club of people that were wearing the distinctive white earpieces. The Fire could be changed to make it distinguishable from a distance (perhaps make the speakers at the top a different shape and orange highlighted).

There are also many ways suggested to enhance the product page. The drive of low financial risk can be emphasized with the contrast principle (It’s even cheap for a phone!). You can also use the power of FREE with the (really rather long) list of free stuff you can access with your Kindle Fire ( perhaps delivered in a testimonial format: “I would easily pay \$30 a month for just the free books!—J. Forester, Atlanta”).

In our study, we also looked at the comparison between the Fire and the monochromatic devices. We showed people this comparison display and then probed deeply into their emotions.

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Customers wondered a bit if the deal was too good to be true. Some even felt it would reflect poorly on them if they had such a low cost device.



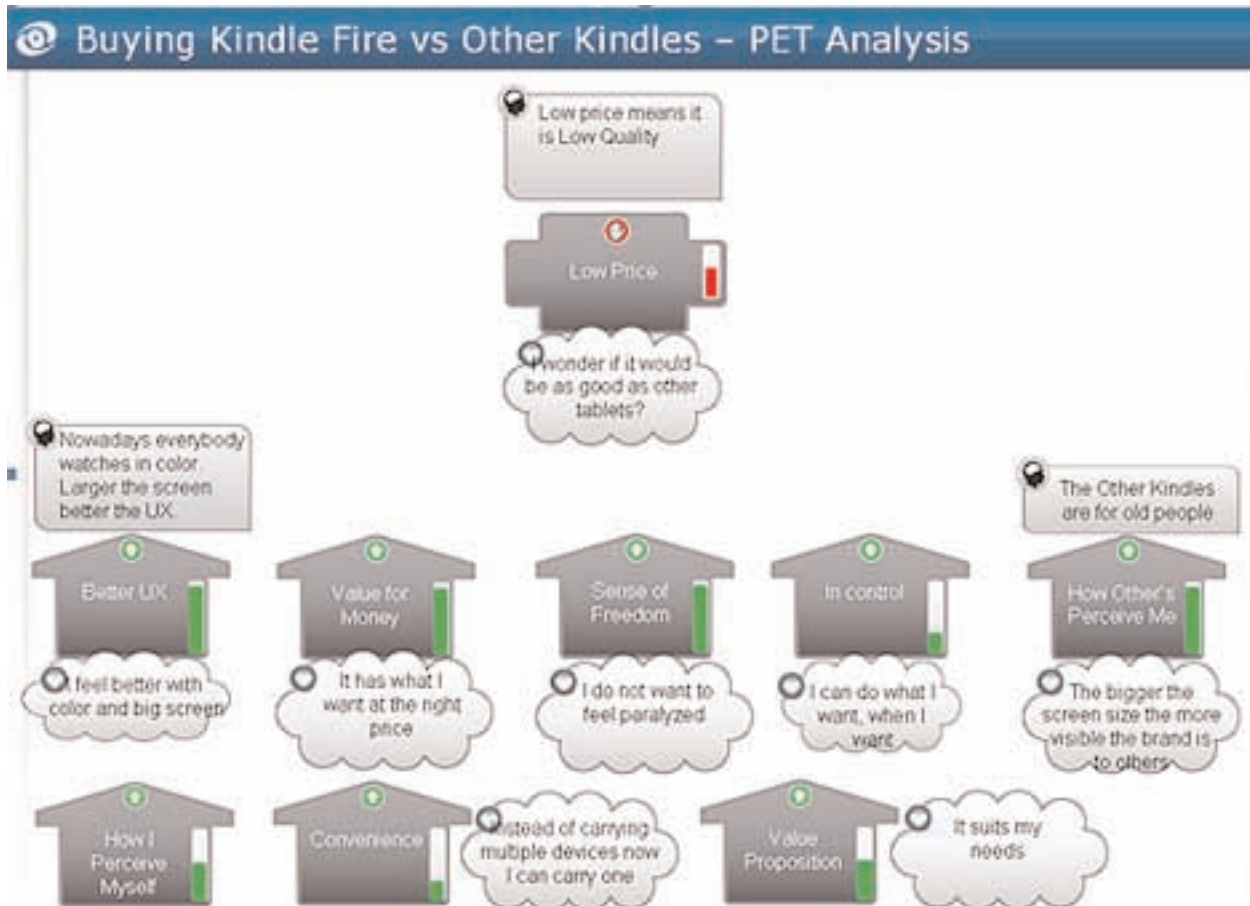
Interestingly, there was only one block to selecting the Fire. Participants wondered if the Fire could be as good as the other tablets. It is obviously bigger and has a color screen. So, customers wondered a bit if the deal was too good to be true. Some even felt it would reflect poorly on them if they had such a low cost device. But, clearly, this is a moderate block with a strong set of drives and we can therefore be confident that the FIRE will capture a fair share of the sales.

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**Amateurs in the UX field tend to assume that performance and preference go together. If this was true, you could ask users what they liked and rest assured that you could follow their**

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### USAGE

In a world where reviews and social networks spread the word in a flash, the actual user experience of operating a Fire should be critical to sales. But, how is it selling so well with all these usability issues? Word should be out that it has usability issues. But the reality is different.

There are two major metrics for human-computer interface design. We can measure performance—and, there are some areas for improvement there. But we can also measure preference. Amateurs in the UX field tend to assume that they go together, and that users will prefer designs that are most efficient. If this was true, you could ask users what they liked and rest assured that you could follow their advice.

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## The Kindle Fire: Solid Proof that Usability is No Longer Enough! – A Conversation with Eric Schaffer

**The Fire is clearly optimized for user preference. It is made to be fun to use.**

But the research often shows that the preferred designs are NOT best in terms of performance. For example, fastest reading speed occurs when a body of text is about 100 characters wide. But people prefer text that is 55 characters wide. That sort of finding is so common that I am surprised when preference and performance are the same.

Of course one factor is color, and people generally like color, at least for images. Color aids in the performance as well. With color, it is easier to tell what is going on.

The Fire is clearly optimized for user preference. It is made to be fun to use. Let's take the carousel menu used to offer current content. You can see four or maybe five choices in a space that could easily fit twenty. The bookshelf is also inefficient to say the least. But, they are FUN.

And in the last decade or so, UX experts have gotten serious about how to systematically engineer fun into user interfaces. There is a whole field of gamification, where we are engineering fun into business systems in previously dry areas like financial applications and customer management algorithms. We apply insights from computer game design to make interfaces compelling. And the Fire is a pretty good example of why that matters.

No doubt you can make a reader that is faster to use. But do you really care about the couple of seconds that a more boring and conventional menu might save?

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If you are a UX specialist, you need to know how to design interfaces that optimize human performance.



### INSIGHTS FOR DESIGNERS

If you are a UX specialist, you need to know how to design interfaces that optimize human performance. And an interface that is awkward to use is a non-starter in all cases. But you need to extend your thinking and your skills beyond basic usability. When we design for UX, we are designing for a broader set of concerns. And, you need skills to engineer enjoyment into your designs.

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### About Dr. Schaffer



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Eric Schaffer, Ph.D., CUA, CPE  
Founder and CEO  
Human Factors International

Dr. Eric Schaffer is the founder and CEO of Human Factors International, Inc. (HFI). In the last quarter century, he has become known as the visionary who recognized that usability would be the driving force in the “Third Wave of the Information Age,” following both hardware and software as the previous key differentiators. Like Gordon Moore’s insight that processor power would double every 18 months, Dr. Schaffer foresaw that the most profound impact on corporate computing would be a positive online user experience—the ability for a user to get the job done efficiently, easily, and without frustration.

Dr. Schaffer’s book, *Institutionalization of Usability: A Step-by-Step Guide*, provides a roadmap for companies to follow in order to make usability a systematic, routine practice throughout their organizations. Dr. Schaffer also co-developed The HFI Framework™, the only ISO-certifiable process for user-centered design, built on principles from human-computer interaction, ergonomics, psychology, computer science, and marketing.

Dr. Schaffer has completed projects for more than 100 Fortune 500 clients, providing user experience design consulting and training. He has recently been traveling the world teaching HFI’s newest course, How to Design for Persuasion, Emotion, and Trust.

Dr. Schaffer is a member of the Human Factors and Ergonomics Society and a Certified Professional Ergonomist.



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