Putting relevance at centre stage in all research on human activity on the Internet
Francisco Yus
University of Alicante

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Introduction
Years ago, Internet was a clear complement to our main physical activities. A place we had to log onto. A text-based, limited environment for communication. Nowadays, by contrast, we devote an increasing amount of mental activity and time to obtaining information and communicating with others online. We never really get disconnected from it. Instead of paying to get Internet connection, many of us would rather pay to get disconnected from it. The development in Internet use has been so radical that now many disciplines study partial aspects of the Net, ranging from linguistics, sociology, anthropology, cultural studies, philosophy, etc.

Now, as the cognitive principle of relevance states, human cognition is relevance-oriented not only in communication, but also in every aspect of our daily lives, with sub-tasks such as the following:

(1) To filter information from outside the individual that hypothetically is not relevant.
(2) To update the general picture of the world that the individual possesses.
(3) To identify intentions and attitudes that underlie the interlocutors’ communicative activity.
(4) To combine new information that reaches the individual’s mind with information already stored there or information accessible from context.
(5) To select from context only the information that is going to be useful for the derivation of relevant conclusions.

This means that our mental activity for communication on the Net, even if sometimes less contextualised that face-to-face communication, should follow the same inferential procedures as oral conversations and these should also follow the overall relevance procedures of human cognition in general. This is what interests “cyberpragmatics”, but I today I would like to add that relevance guides not only communication on the Net, but also ANY human activity online, as I will show below.

This idea of pervasive application of relevance theory fits today’s quality of our lives, with an increasing blurring of the offline/online divide, and hence all research on the cognitive procedures of the human mind in physical scenarios necessarily entails a parallelism in virtual environments.

As I claim in my book Cyberpragmatics, today’s user should be pictured as a node of intersecting networks of a physical or virtual kind without a clear dividing line.

In short, I think relevance theory can provide a valid explanation to all human activity on the Net, which so far has been studied by overlapping different disciplines. Hence, relevance theory can provide a more unitary theoretical foundation for Internet research than has been achieved so far.

The aforementioned human activity on the Net can be summarised in four areas:

(1) Relevance sought by the System for the User
(2) Relevance sought by the User in the System
(3) Relevance sought by the User in another User’s utterance
(4) Relevance sought by the User in the Group of Users

1. System-to-user.
The system learns from human activity on the Internet and it automatically proposes sources of information because they are potentially relevant to them. The system calls the user’s attention and warns him/her that there is a message waiting that is worth attending to. Relevance-oriented communication by the system includes emails by Facebook, RSS feeds; Facebook alerts on users’ profiles, pop-up Messenger or Email windows that warn users of an attempt of communication by another user, or the notification center on the iPad, among others. In all of these cases, the system takes responsibility of what is bound to be relevant to the user, to the extent that the system even stops us from accessing certain information.

Take Facebook, for example. It automatically filters information for users in 3 different ways.

(1) By affinity: the more friends you become with somebody and the more someone visits your profile and engages in conversations with you, the more likely that Facebook will show updates from that user.

(2) By the relative value of content. For example, updates on user status, if he or she no longer married etc, are more valuable and the program emphasizes them, but other types of content are also underlined by the system if it detects the user’s to see that kind of content.

(3) By time. The most recently published entries take precedence over the oldest.

Other automatic filtering of information by the system includes Amazon’s personalized proposals according to previous searches or purchases by the user. And of course, we can also include here the output results by a search engine such as Google. Why is Google so popular? Because it uses algorithms to yield the most relevant results. Google learns form users and yields personalized results for each user, to the extent that if you search for a term in Google, all of you will get radically different results, because you all are different and Google knows that.

2. User-to-system
Apart from search engines such as Google, we often search for information on the Net, read online documents, choose reading paths by clicking on the links that might lead to the most relevant information, etc.

-We also access web pages expecting to get information is as little effort as possible, that is, we expect a high level of web page usability (effort-relieving web page design);
-We also combine information from visual, verbal and multimodal sources on the page to get relevant outcomes.

-We also engage in multi-tasking trying to get to grips with the increasing demands of Internet use.
-We read texts online with the pressure of ever-pushing competing sources of interest on the Net. All this human activity of information-seeking has a clear explanation in relevance-theoretic terms. Information in general has to be compensated for with cognitive effects. In my book Cyberpragmatics I even proposed a rewriting of the conditions of relevance for the specific quality of information on web page, one quantitative (number of clicks) and one qualitative (inter-link coherence).

Besides, there are surprising combinations of effects and effort on the Net, for example pages which provide almost no cognitive reward but also demand little or no effort, a sort of Internet area for cognitive relaxation, as in that webpage in which one could see a Cheddar cheese maturing.

Finally, I’d like to reinterpret Nicholas Carr’s claims on the harmful effect of Internet in relevance-theoretic terms. He published a controversial article in The Atlantic and then a book called The Shallows in which he claims that our brains are now addictive to micro-stimuli and we need to receive inputs all the time, our brains are now restless and impatient, in need of constant gratification.
One of the reasons is the increasing amount of micro-messages of immediate relevance to the user but which demand little processing effort in exchange. Therefore, we have ended up addicted to a non-stop barrage of micro-messages whose balance of effects and effort is turning our minds into lazy cognitive mechanisms, to the extent that many intense Internet users are no longer able to devote the effort required to process a long text such as a novel. We are too impatient. Our minds long for immediate relevance, for immediate gratification from non-stop flashes of information.

3. User-to-user.
We engage in many Internet-mediated interactions, either in synchronous conversations (chat rooms, instant messaging, conversations with 3D avatars, Skype…) or asynchronous conversations (posts on Facebook, e-mail, Twitter, blog posts…). This area is, no doubt where RT can be more directly applied to the Internet, especially through the communicative principle of relevance. Indeed, we look for relevance...

In daily conversations with other users
In the social uses of the net (web 2.0)
In identity shaping through daily communication with other users

Communication on the Net
Communication on the Net follows the same pattern of face-to-face interactions. Senders code their messages predicting the interlocutor’s accessibility to contextual information so as to get the intended interpretation And addressees metarepresent the sender’s informative intention, attitudes and emotions. Crucially, the quality of the text typed (or spoken) in the visual-verbal, oral-written and synchronous-asynchronous axes, and the limitation of contextual information on the Net influences or affects these inferential activities of metarepresentation and prediction. That is, the quality of the text or utterance may influence this communicative activity, affecting balances of effects and effort or making it hard to metarepresent the sender’s interpretation, attitudes and emotions.

Much of cyberpragmatic research is intended to analyse how Internet users compensate for the cues-filtered quality of typed texts in order to be optimally relevant and communicate their thoughts, feelings and emotions in an appropriate way. An example is what I call “text deformation”, altered by users with emoticons, repetition of letters and punctuation marks, written simulation of intonational patterns etc. In these cases, to the traditional gaps of interpretive resemblance between what the user intends to communicate and what he/she codes, and between what is read by the address user and what is interpreted by him or her, new gaps would be created. How much these new gaps actually alter eventual relevance assignment depends on how familiar the user is with this kind of textual alteration.

Actually, familiarity with the special ways in which utterances are constructed on the Net is such an important factor that is should be incorporated to the general formula of relevance and its conditions of effects and effort. And other factors also influence communication on the Net in a much more radical way than in normal face-to-face interactions.

Therefore, I think we can fine-grain the conditions for relevance with aspects that on the Net turn out to alter, affect of influence eventual relevance assessments. This fine-graining would explain why Internet generates balances of effects and effort that defy normal relevance assessment in physical scenarios. On the Net, there are several alternative sources of user satisfaction that may add to (or overlap with) the actual information exchanged on the Net (the so-called “cognitive rewards” in a 2011 publication). Among them,

-Feelings and emotions.
-Feeling of empathy.
-Phatic connotations.
Feelings of membership to a group, network or community. Awareness of being connected and interacting with others.

These are also found in physical scenarios, but on the Net they acquire such an important role that they end up altering the eventual balance of effects and effort.

These are also present in physical scenarios, but their influence is much higher in online environments, where users pay attention to qualities of text that normally go unnoticed in face-to-face interactions.

Similarly, there are potential sources of user (dis)satisfaction on the Internet that may reduce or increase the eventual relevance of the information being processed (these I called “environmental constraints”). I have already mentioned familiarity with the rules of the medium, specifically with chat room jargon. Other constraints include:

**TYPE OF SEARCH OR INTERACTION**
- Aimless surfing (browsing) or trying to find some specific information (focused search)

**QUALITY OF THE MEDIUM**
- On the oral / written, visual / verbal and synchronous /asynchronous scales (these are non-stop changing qualities)

**QUALITY OF THE INTERFACE (USABILITY)**
- It allows (or not) for an easy access to the information that is interpreted

**FAMILIARITY AND FREQUENCY**
- Familiarity of the user when using the interface and frequency of use

Hence, relevance equations of Internet communication can be complemented with these cognitive rewards and environmental constraints. In today’s presentation some of these are presented and commented upon:

example 1: Multiple conversations in parallel Messenger windows
example 2: Web page usability

**4. User-to-group.**
Finally, there are potential sources of relevance not in the actual content of the interactions or the discourse typed on the keyboard, but in the offset of group-connoted effects that can be obtained from these interactions, even if the information is, in itself, utterly irrelevant.

In general, the most popular sites for social networking are intended to generate relevance by strengthening the individual’s identity shaping and presence in the group. This is also at work in physical settings, but on the Net it is a central source of relevance. For example, profiles in social networking sites clearly exhibit user’s identities, in the varieties of unitary identity, relational identity, and group identity.

To conclude, relevance theory can provide valid explanations and justifications to many Internet phenomena that have been studied from different disciplines. This is because the inherent human search for relevance is found in all aspects of human activity on the Internet. We don’t know which future activities will be popular on the Internet. But whichever they are, relevance theory will be able to provide a scientific explanation to them.