The economics of attention: Is there an appropriate balance between the interests of information providers and users?

blogs.lse.ac.uk/impactofsocialsciences/2015/06/24/economics-of-attention-information-providers-and-users/

6/24/2015

Attention has become a critical resource for decision-making in the digital age. But differing approaches in economics present widely different understandings of the role attention plays in modern life, argue **Agnès Festré** *and* **Pierre Garrouste***. There are risks in confining the field to be concerned solely with information provision and noise filtering, without recognising how attention shapes problem-solving and rationality.*

The "economics of attention" has increasingly gained importance in academic research since the first appearance of the term in 1997 in a seminal on-line article by Michael Goldhaber where he defined it as a sub-field of the "Internet economics", focusing on the time-consuming dimension of overflowing information. The rising activity of bloggers or the intense use of social networks (*Facebook*, *Twitter*, etc.) in the last decade is a clear indication of the fact that attention has become a critical economic resource for decision-making. Quite a few economists have addressed the problem of limited attention and its economic consequences.

Image credit: Gerd Leonhard (Flickr CC BY-SA)

The notion of attention is however an old concept in social sciences. Originally a philosophical, then a psychological notion, it became popularized in economics thanks to Herbert Simon, whose work on information and cybernetics in the 50s focused on the interference between information and cognitive capacities (see The 'Economics of Attention': A History of Economic Thought Perspective).

Information-economy approach to attention economics

There are two different approaches in economics that deal with attention economies, both in line with Simon's

conception of attention. According to the first approach, attention economics is considered as a ramification of information economics, which derives from Shannon's mathematical theory of communication. From this perspective, attention is conceived, as a function of the unlikelihood of an event to happen and of the frequency of similar past events (which provides a measure of the surprise value or the degree of novelty). Consequently, an event that has never been experienced before is supposed to have a high surprise value and therefore to attract attention, even if it lacks any specific associations or consequences. This seems however at odds with the diffused idea in cognitive psychology that attention depends on both the unexpectedness of events and of their familiar association.

If cognitive psychology abandoned this direction, the information-economics approach instead adopted it. As well-known, this approach assumes full rationality and considers sub-optimalities caused by asymmetric information and information overload. Key empirical issues relate to information pollution (e.g. spams) and its solutions (technological solutions, regulatory devices, or market-based mechanisms). As for the spams that constitute negative externalities, is it more efficient to set up technological filters at the risk of blocking relevant messages or accepting dangerous ones? Experimental works give mitigated results.

The economics of attention seen as a ramification of information theory conveys two conflicting rationales for economic agents, depending on whether it focuses on the user or the provider of information: on one side we find models that analyze how it is possible for firms to compete to capture the attention of customers or audiences in order to make money from it; on the other side there are analyses that focus on the overload of information from the viewpoint of consumers and provide solutions in order to protect the attention of users from information overload and pollution.

Bounded-rationality approach to attention economics

According to the second approach, attention economics defines a field that focuses on attention as a justification for bounded rational behaviors. The second approach of the literature on attention economics is with no doubt a more faithful tribute to the spirit of Simon, although it splits into two distinct interpretations of his conception of bounded rationality: on one hand, *the negative side*, criticizing the neoclassical view; on the other hand, *the positive side*, consisting of an attempt to model behavior in a more realistic way. According to the negative interpretation, bounded rationality is seen as a limitation to human rationality. The negative agenda of 'heuristic and biases' program aimed at specifying the conditions under which intuitive judgments were likely to be systematic deviations from the norm of rationality conveyed by expected utility theory. One major advantage of such a conception of rationality is that it permits to preserve standard theory of choice under uncertainty.

By contrast, the second interpretation conceives bounded rationality as an adaptive capacity. The stream of 'ecological rationality' endorses this conception where fast, information-economizing and frugal problem-solving based on salient rules can be an efficient means of reasoning. Accordingly, cognitive biases and heuristics violate fundamental tenets of classical rationality. In such a perspective, rationality is contingent to the institutional environment and can only be measured in an evolutionary perspective.

To be sure, the emerging macroeconomic literature on rational inattention is clearly to be related to the first interpretation, which implies that attention is limited, but this limitation is restricted to a noise and does not impair economic rationality. In these kinds of models, the traditional assumption of economic rationality is preserved.

The other strand of the literature focusing on selective attention and problem solving, by contrast, is more in line with the second interpretation of bounded rationality. These contributions provide models whose theoretical predictions are corroborated by some experiments. In particular, they show how selective attention may lead individuals to persistently fail to recognize important empirical regularities, make biased forecasts, and hold incorrect beliefs about the statistical relationships between variables.

This piece is based on a journal article written by the authors, "The 'Economics of Attention': A History of Economic

Thought Perspective", *recently published in Oeconomica.*

Note: This article gives the views of the author(s), and not the position of the Impact of Social Sciences blog, nor of the London School of Economics.

About the Authors:

Agnès Festré *is Full Professor of Economics at the University of Nice Sophia Antipolis. She belongs to GREDEG (Research Group in Law, Economics and Management), which develops research on innovation, digital economics and behavioral economics. Her research interests are history of economic thought, behavioural and experimental economics and economics of motivation and incentives. For more information see here.*

Pierre Garrouste *is Full Professor of Economics at the University of Nice Sophia Antipolis. He belongs to GREDEG (Research Group in Law, Economics and Management), which develops research on innovation, digital economics and behavioral economics. His research interests are behavioural and experimental economics and economics of institutions. For more information see here.*