

The Algorithm Economy A Conversation with Professor Italiano

Before our meeting with Professor Italiano we had no idea of what Algorithm economy was. Already, the title strictly related with an algebra concept frightened most of the people. Still, after a brief *exposé* on the Algorithm Economy you will realize that this topic has more interesting aspects than you might expect and it is linked to your daily life in ways that may frighten you more than the title of this article itself.

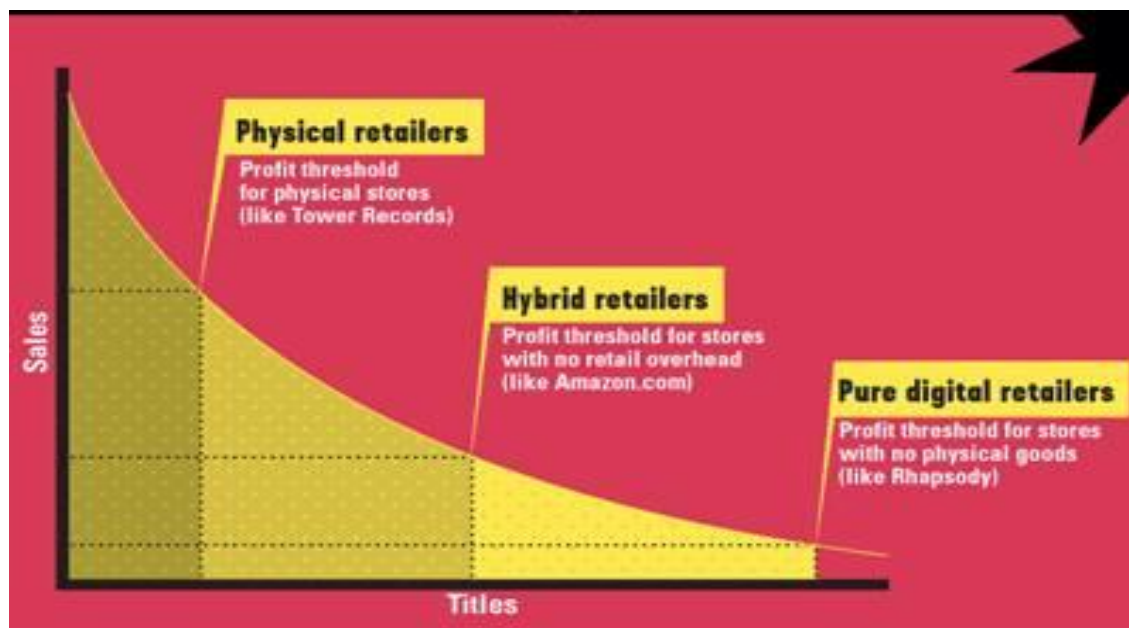
We will start with the premises that the topic is very broad, therefore we are going to cover just the aspects which arouse our curiosity.

When we talk about algorithm economy we are talking about the science that deals with the big data. Big Data are a large amount of data, encountered for example on the internet, that the traditional data processing is not able to capture. For this purpose we need an advanced method such as the *recommendation algorithm*.

The recommendation algorithms are systems able to filter on the web all the items that a user prefers according to his research. Many sites such as Netflix or Amazon employ these systems. As you may observe on Amazon, after having bought a book or a dvd, the website makes you a proposal on what could be other stuff that you would be interested in buying. Obviously, these systems are not made for philanthropic purposes but for profit. However, on the practical side of the matter, they endow the consumers with the opportunity to access to a larger amount of choices that they could not enjoy from singular physical retailers. On the theoretical and philosophical side, the most scary one, they know what you do, they know what you like, they know what you buy and even what you *may* like or *may* buy in the near future. They simply know you better than you do.

A lot can be said about the moral implications of this mechanism: doesn't it risk to be too pervasive? Is *individual privacy* threatened by these systems? Those are very interesting issues but we don't want to derail the subject and put the focus on other topics.

Recommendation engines lead users to discover contents that otherwise they would not be able to find. A better explanation is offered by this long tale economy graph.



From a single physical retailer you cannot buy everything because not every good has a stable demand for it, and hoarding too many good is costly (packaging distribution, retail markup...).

The second step represents the Hybrid retailers companies that sell physical good online widening the choice but still maintaining some costs which limit their effectiveness.

Finally, we arrive at the purely digital retailers, these retailers have no economic reason not to carry everything available and therefore they are the kings of this market!

Another very interesting application in concern with the recommendation algorithm is that used by Netflix.

Netflix initially was a physical retailer but then it moved into digital one passing from 9 to 23 million clients in few years (2007-2011).

The next move of Netflix implied recommendation algorithms.

Before investing in a new series, Netflix, in order to prevent the risk of loss, observed -by using an algorithm system- that during this period (2012) there was the revival of an English series named "*House of cards*" inspired by the novel of Michael Dobbs, chief of staff of conservative party. In the mean time during this period -always by using an algorithms systems- they realize that one of the most appreciate director was David Fincher and the actor most cherished was Kevin Spacey.

Through the cross check of this data and of the level of appreciation by the public, they conceived the series "House of Cards", actually one of the most renowned series.

We can conclude by saying that algorithms are around us, into our pc, into our smartphone and into our daily life and that knowing something more about these odd entities might result interesting and useful for our 2.0 existence.

Giacomo Cerchia, Greta Albertari