How to Appease Your Customers After Your Algorithm Rejects Them

No one likes to hear “computer says no”. But there may be more ways to be transparent about algorithm-driven rejections than you think.

From a customer perspective, the only thing more frustrating than being denied a product or service is when that denial comes without a satisfactory explanation. As humans, our ability to deal with disappointment depends upon understanding why it happened. Without an acceptable rationale, we are apt to assume the worst: deliberate disrespect, blind prejudice, etc.

This aspect of consumer psychology may create problems for companies relying on decision-making algorithms for vetting purposes, fraud prevention and general customer service. We’re seeing widening adoption of AI in fields such as marketing and financial services. On balance, this is great news, allowing companies to serve customers with unprecedented speed and predictive precision. However, while bots beat humans hands down at making accurate decisions at scale, their communication skills (so far, anyway) leave much to be desired. As algorithms assume a more prominent role as gatekeepers, where will rejected customers turn for an adequate explanation? And how can companies provide one without revealing too much about their proprietary algorithms – which are, very often, essential IP?

Too many firms have not yet thought seriously about these questions – but policymakers have. Articles 13 to 15 of the EU’s General Data Protection Regulation require that companies using automated decision making supply customers with “meaningful information about the logic involved”. Determining what qualifies as “meaningful information” is slippery enough for commonplace decision-tree algorithms. As more sophisticated tools such as “deep learning” neural networks gain wider business application, the byzantine processes of the algorithms themselves may defy explanation.

Our recent working paper (co-authored with Hisham Abdulhalim of Ben-Gurion University of the Negev) suggests that companies can, and should, be more transparent with users both when they do not want to reveal, for commercial or legal reasons, how an algorithm operates and when they cannot reveal it because the algorithm is unexplainable to laypeople due to its complexity. Based on one of the few field experiments ever conducted into the explainability of algorithms as well as several lab studies, we find that information about the purpose or goal of an algorithm (which researchers call a teleological explanation) can be just as meaningful to rejected consumers as knowing how it works (a so-called mechanistic explanation).

Explanations and e-commerce

We partnered with an e-commerce platform that uses algorithms to decide whether transactions
should be completed. In particular, we focused on
an algorithm that decides whether buyers have
sufficient funds in their account. So-called “elite
users”, whom the algorithm deems highly
trustworthy based on past purchase data, may be
permitted to proceed on the presumption that they
will promptly top up.

For every seventh denied purchase out of a sample
of 16,399 declined transactions (average amount:
approximately US$164), we enriched the
uninformative standard message provided to
customers (“Company has blocked this purchase.
Company blocked the purchase due to customer-
related issues.”) by adding: “Company blocks such
purchases to ensure the financial well-being of our
customers.”

Our aim in adding this simple teleological
explanation was to assess its impact on customer
behaviour. We reasoned that, without an
explanation, users’ immediate remedy for the sting
of rejection would be to raise an inquiry with
customer support. In fact, every single one of the
rejected customers who received the baseline
message did so. In contrast, those who were told
the purpose of the decision were 7.4 percent less likely
to complain to customer support – our first
indication that such an explanation made rejection
easier to accept.

Beyond that, the average resolution time for the
resulting customer service inquiries (i.e. the total
time elapsed until an inquiry was closed) was nearly
two hours shorter for the group that was told the aim
of the decision. This suggests that our brief
explanatory statement of purpose was effective at
reducing the rejectees’ negative emotional
responses to more manageable levels without
increasing the expected workload for customer
support. What’s more, we also found that purchase
completion rates did not drop among those who
received this explanation, even though they were
less likely to contact customer support. It is
surprising how a simple, costless intervention –
explaining the purpose behind a decision even in a
non-specific way – can impact customer behaviour
to the benefit of both customers and company.

Second chances

Mechanistic explanations (related to how a decision
is made) have one big advantage over teleological
ones, though: They give rejected consumers a
clearer clue as to what they can do differently next
time. In a subsequent online experiment, we found
that when participants were told instantaneously
(i.e. presumably by an algorithm) where they went
wrong in a visual perception test and were given an
opportunity to redo the test, they were not only
more likely to use their second chance but also
found the experience more satisfying – compared to
those given no explanation or a general teleological
explanation. However, in the absence of a second
chance, participants found both types of
explanations equally satisfying, not to mention
preferable to no explanation at all.

Digging deeper

Next, we investigated why these two very different
varieties of explanation are equally psychologically
satisfying when consumers cannot remedy a service
denial. Our hypothesis was that users tend to
perceive them as equally fair. Using the same visual
perception test set-up, we added a surprise set of
questions to the end of the experiment, framed as
extra work, offering either no explanation for the
inconvenience, a neutral teleological explanation
referring to our scientific aims, or an unfair
explanation that stated that certain participants were
singled out to take further advantage of their labour
without additional pay.

Unsurprisingly, the neutral explanation was seen as
more satisfying than the unfair one. The more
counterintuitive finding was that even the unfair one
was preferable to none at all.

In a fourth and final experiment, we varied the
explanations for the extra questions. All three
explanations provided a teleological “why” for the
extra work but were either paired with a
straightforward mechanistic explanation of how the
algorithm selected some users over others, an
opaque one mentioning “a complicated black-box
algorithm which cannot be explained”, or no
mechanistic explanation at all. Participants found the
black-box explanation the least satisfying and fair of
the three. Interestingly, the teleological-only and
straightforward mechanistic explanations were
rated as equally fair and satisfactory – despite the
highly specific content of the latter and the relative
vacuity of the former.

Ethical ambiguities

We are aware that our research raises potential
ethical questions. Our findings suggest that
companies need not explain how their algorithms
work in detail to satisfy rejected customers – an
explanation focused on the goal of the algorithm
seems to suffice. This might offer less forthcoming
firms a transparency workaround. However, it could
also be interpreted as providing more flexible ways
to achieve transparency.

After all, the finding that comes out most strongly
from our studies is that offering an explanation that
conveys a sense of purpose and fairness about the
algorithm’s decision is better than giving no
explanation at all. Sometimes, it is as effective as
explaining the details of how an algorithm works. This should reassure companies that their users are responsive to communications that honour the need for fairness, even after being rejected by an algorithm. Using a black-box, unexplainable algorithm, therefore, is no excuse to ignore customers’ need for an explanation. As ever, the human touch is all-important. And as our research shows, this comes at no cost to companies.

_Everyone is interested in continuing to explore best approaches and practices for explaining algorithms to customers. If you’re interested in a partnership, we invite you to [get in touch]._

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