

Reputation Systems and the Internet

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On the internet, how do I know you are you and not someone posing as you? How do I know criticism of a company is from a customer and not an activist? How do I know if I buy from you, that you will deliver on time and to expected quality? How do you know I will pay? How do I know your online reputation isn't faked with false customer testimonials? How do you know comments attributed to me are, in fact, mine?

These questions bedevil technologists and others who protect the internet from misbehavior, and they have direct bearing on reputation. Unfortunately, there is no easy answer and no perfect solution to establish and protect reputations of organizations or individuals on the internet. The internet is anonymous and universal – qualities that inhibit identity and trust.

Reputation once depended on everyone knowing everyone else in a semi-closed society. Reputation on the internet exists in a ubiquitous network connected to Chinese householders in Beijing and computer hackers in Sweden. Millions of network subsets contain relationship webs built from communities in which largely anonymous individuals have shared interests. Within these subsets, individuals and organizations have one or more reputations – some isolated and others exposed, some helpful and some harmful. Reputations of large companies and well-known individuals transfer from other environments to online because of longevity and branding communications. Reputations of lesser known firms or individuals are built on the internet by what others say about them online.

As the internet moves toward the center of communication, risks to reputation are greater, even for well established individuals and organizations. Hence, there is a hunt for software code that measures reputation reliably, but unfortunately, the search is doomed. Reliability cannot overcome human behavior. Humans defeat any process when it is in their interest to do so. As a result, reputation systems are never perfect: They work more or less well.

Yet, the fact remains that maintaining a good internet reputation is essential for doing business and achieving objectives online. One cannot neglect reputation and hope for the best. Maintenance requires monitoring and intervention – a task PR practitioners should know well.

Reputation(s)

Because reputation is an estimate in which others hold an individual or organization, it is possible – actually, probable -- for an organization to have an

unfair reputation, good or bad, because observers have misjudged it. Reputations are not a function of right or wrong, but of how others perceive, whether factually or not. Ideally, reputation accurately reflects an individual or organization. Practically, that is almost never the case.

Reputation can be segmented too. The reputation of an individual or organization that is good from one perspective may be bad from another. A boss can be attentive to customer needs but intolerant of employee failings. Customers love him: Employees hate him. Companies and individuals need only worry about perceptions that help or hinder achievement of individual and organizational objectives.

Reputation and anonymity

On the Internet, one can be, and often is, anonymous. Disclosure is limited to self-revelation and self-revelation depends on honesty. Unfortunately, humans often prevaricate when it serves self-interest. They make things up, exaggerate, “fib,” “spin” or otherwise distort the picture of themselves and their actions. They also might not be conscious of error because they believe something to be true that isn’t.

Internet users are, or should be, aware of self-proclaimed reputations. Buyers, especially, should heed the Roman warning, “caveat emptor,” – “Let the buyer beware.” Unfortunately, buyers cannot establish reputations of anonymous sellers in traditional ways, such as direct inspection of goods, a relationship with the seller, community regard for individuals or organizations and inspection of established premises for business. Therefore, there is a greater chance for sellers to misrepresent products and services and not fulfill orders. There is also heightened opportunity for buyers to take delivery and not pay. Because buyers and sellers know this, they don’t like dealing with someone they don’t know and whose reputation is not established.

Organizations and individuals can spend money to raise awareness of themselves through paid media and temporarily “buy” a reputation, but if dealings with customers and others are poor or fraudulent on the internet, they can lose what they paid to gain. The loss can last for a long time because data stored on the internet remains in place like a birth or death record. Further, on the internet, one complains to the world and not just to friends or the Better Business Bureau, and gripes can become a part of a cumulative record of experience with a company or individual.

Reputation systems are built on the concept of a cumulative record. They establish mechanisms whereby buyers and sellers can comment on their experience with each other and those comments are summarized numerically. But, cumulative records can be and are distorted by manipulation to the advantage or disadvantage of organizations and individuals. That is one reason why PR practitioners cannot depend on them as gauges of online reputation and why they must monitor online continuously.

Reputation, time and other characteristics

Reputation has a time element. Short-term reputation focuses on immediate credibility and long-term reputation is based on sustained credibility. A new and anonymous seller on eBay, the worldwide online marketplace, could not be successful unless someone in the short term trusts the seller enough to buy. The anonymous buyer might discount the bid based on higher risk, but the buyer trusts the seller's reputation enough to place a bid. This reputation also might be transient in that the buyer never purchases from the seller again. An established anonymous seller on eBay with a record of selling and honest behavior needn't worry about buyers discounting his offerings. The anonymous seller has to some degree shed anonymity in that his "handle," or online name (such as *corwinsdad*) is widely recognized and associated with a record of good behavior. The actual name of the seller is unknown except to those who have purchased goods from the individual in the past and dealt with the individual directly. Even then, it might not be necessary for the buyer to know where the seller lives or the seller's bio.

So too, a new and anonymous participant in a chat room might find reluctant acceptance until the participant's opinions, ideas and expressions are vetted by other, more established chatters. Those who add to a conversation over and over with good ideas rise in estimation over those who don't. The technical chat site, *Slashdot.org*, rates participants' comments from 5 (high) to 1 (low) with a one-word descriptor such as "interesting" or "funny." Readers can filter comments by number, then check recent journal entries of the individual commenting plus the individual's friends, fans, foes and "freaks." Thus over time, an individual might rise from a passing commentator to an individual whose opinion carries weight on the site – a sustained reputation. Another site, *kuro5hin.org*, uses a similar system.

Reputation also may be borrowed online. This is what Amazon.com offers to stores that reside on its site. Amazon.com is a trusted merchandiser, and consumers assume that any site Amazon.com allows on its web pages has been vetted. This halo provides third-party credibility to merchants who might not be able to gain good reputations alone in a short time. Merchants, of course, pay for the privilege of borrowing a good name.

In addition, reputation may be based on something other than fact or action. A high estimate given to an anonymous individual expressing outrageous opinion might come as much from the person's style as it does from what the person says. One can like an individual's writing style but not trust him, or dislike an individual's style but believe his facts. Either way, both can have a positive internet reputation.

Reputation and economic value

Reputation has direct economic value, especially for unknown or relatively anonymous companies, as most are. Researchers proved this through a

controlled experiment on eBay.com. The experiment demonstrated that buyers are willing to pay 8.1% more for an identical item to a seller whom they trust based on reputation rating pointsⁱ. The experiment used vintage postcards in matched lots that were sold by an eBay dealer under his identity that has a high number of reputation rating points and under new seller identities without reputation rating points. For those who have not used eBay, it has a system whereby once a transaction is completed, both the buyer and seller can rate each other on the quality of the transaction through assigning a +1 to a positive experience and a -1 to a poor experience. The ratings system totals points – positives minus negatives – and posts the total next to the seller's name on the page where the seller is offering an item for sale. The higher the reputation point total, the greater the dealer's reputation for fair dealing based on the cumulative experience of buyers who have taken the time to use the rating system. The system also provides a line for buyer and seller comments about the transaction and these are made available to all. Sellers protect their reputation ratings because it impacts their business. They know if they have a problem today, it will affect how they sell products tomorrow.

Reputation systems

Computer-based reputation systems based on cumulative scoring of participants' experiences are economic and non-economic on the internet and used for a wide range of purposes. The Pew Internet & American Life Project estimated that "26% of adult internet users in the US, more than 33 million people, have rated a product, service or person using an online rating system."ⁱⁱ The estimate came from a Pew phone survey of 1,399 internet users conducted from May 14 to June 17, 2004 that had a margin of error of plus or minus three percentage points. The study found that adults who give ratings are more experienced and active on the internet, more educated with higher income, younger and with high-speed connections.

Systems rate ecommerce, products, services, teachers, nightspots, companies, bloggers and much more. For examples, visit sites like epinions (<http://www.epinions.com/>), which uses up to five stars (1 low to 5 high); Amazon.com (up to five stars); Bizrate (<http://www.bizrate.com>) green smiley or red frown faces; virtual ratings (<http://www.virtualratings.com>), A (high) to D (low) for professors or RateMyTeachers (<http://us.ratemyteachers.com/>); Citysearch (<http://www.citysearch.com>) for numeric ratings on restaurants and nightspots; the Internet Movie Database (<http://www.imdb.com/>), which uses 10 stars and Top Radio weblogs (<http://radio.weblogs.com>), which uses the number of people subscribing to feeds.

Economic reputation systems distinguish between trustworthy and non-trustworthy sellers and have the added impact of pressuring sellers to be trustworthy while discouraging those who aren't. Noneconomic reputation systems distinguish any number of characteristics that determine merit or lack of it. The beauty of the systems is the cost of gathering and distributing reputation data is near zero, while reach is universal. The downside to the

systems is that they use a multitude of scoring approaches, some of which are compatible and some not. Further, as stated earlier, they are not perfect, and they shouldn't work at all.

Useful but not perfect

The reason why cumulative-scoring reputation systems should not work is that they are user-dependent. If users do not provide a rating, the seller or opinion deliverer goes unrated. In fact, users do not provide ratings. On eBay, about 50% of the users provide a rating. The rest go their way. Within the 50% who do not comment is information lost to a cumulative system, to the seller and to the buyer. Yet, as one researcher pointed out, if users think the system works, it does.ⁱⁱⁱ This researcher also points to a number of other anomalies on eBay's system, including that all significant eBay sellers have strong reputations, an unlikely scenario. Further, feedback is overwhelmingly positive, which also is beyond belief. Buyers complain about sellers only 1% of the time and sellers about buyers only 2% of the time. Oddly, however, the system does predict seller performance. One could develop a number of explanations for why these seeming distortions are in eBay's system, but there doesn't appear to be a definitive answer.

Other distortions that enter reputation systems include for example:

- **Mis-measurement:** If one measures the wrong elements, the result is wrong. A "cool" statement isn't necessarily a right one and a "boring" statement isn't necessarily wrong. A teacher with a bad rating isn't necessarily a bad teacher but one the students don't like.
- **Log stuffing:** Logs are files that store information of who has visited a website, how they got there and what they looked at. Unethical operators on the internet have taken to stuffing logs with links to porno sites and advertising.
- **Discriminating *against* the seller:** Someone who wants to hurt a seller can have friends purchase from the seller then rate the seller badly.
- **Discriminating *for* the seller:** Someone who wants to help a seller can do just the opposite and boost ratings.
- **Discriminating against selective buyers.** A seller may service certain groups of buyers more promptly than others.
- **Buyer stings:** For example, a seller boosts ratings through numerous small transactions, then offers a single large transaction and absconds with the money.
- **Activism:** A group that wants to embarrass companies or individuals coordinates a campaign against them.

- Insufficient information: A site like CarTalk that carries recommendations for auto mechanics (<http://www.cartalk.com/content/mechx/find.html>) often has too few entries to make a decision.
- Inability to correct the system: A seller might have misbehaved and wants to establish a new reputation. That is impossible with the enduring legacy of past behavior unless the seller changes identity and reenters the system. This is a major problem with reputation systems because unethical sellers can re-establish identity over and over and bilk buyers.
- Assumption that past performance = future performance. Usually it does, but not always. Good companies can spin out of control. Bad companies can get better. Flamers and trolls could become reasonable participants and reasonable participants turn into ranters. Numerical reputation systems are unable to see into the future. On the other hand, they are better than nothing because they provide a probability that is useful as a directional indicator.
- Lack of a universal collection and rating system. There is no rating “Google” on the internet – not yet anyway. Such a system would search every instance of commentary and rankings on individuals, products, services and organizations and compile them into a single numeric ranking. Such a system would be difficult to build because it would have to score textual comments numerically without human intervention. Thus, we deal today with multiple rankings done in multiple ways with multiple assumptions.

Summary

Because cumulative-scoring reputation systems are flawed in assumption and construction, PR practitioners should not depend on them nor should they accept uncritically any systems that purport to tell them how their client is viewed in the marketplace. Systems help but they are not the answer. One still has to do legwork and monitor. Enhancing, protecting and defending reputation online is hard work that won’t go away over time.

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ⁱ Resnick, Paul, Richard Zeckhauser, John Swanson and Kate Lockwood (2004). “The Value of Reputation on ebay: A Controlled Experiment.” Available online at <http://www.si.umich.edu/~presnick/papers/postcards>

ⁱⁱ Rainie, Lee and Paul Hitlin (2004). “The Use of Online Reputation and Rating Ssystems.” Available online at http://www.pewinternet.org/PPF/r/140/report_display.asp

ⁱⁱⁱ Resnick, Paul and Richard Zeckhauser (2001). “Trust Among Strangers in Internet Transactions: Empirical Analysis of eBay’s Reputation System.” Available online at <http://www.si.umich.edu/~presnick/papers/ebayNBER/index.html>