

# Everything you always wanted to know about the economics of dating sites (but were afraid to ask)

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With a seemingly infinite number of online-dating site, the options are endless. Credit: Unsplash, CC BY

One in three marriages in the United States now <u>starts with a virtual</u> <u>connection</u>, and algorithms have supplanted traditional dating and matchmaking agencies. The choices are seemingly endless: If you're looking for a lasting relationship, <u>eHarmony</u> promises bliss. If it's just a quick fling you're after, there's <u>Tinder</u> or <u>Bumble</u>. If your preferences



are more specific, <u>GlutenFreeSingles</u> or <u>ClownDating</u> might appeal.

In the quest for a future partner almost everyone covets a profile that is more attractive than his or her own, and as a result, a significant number of prospective daters never get a response. Economic analysis once framed a theory to explain marriage, but the boom in dating sites has baffled many econometricians.

Before looking at how couples form, however, let's consider the basic economic features of dating platforms. It's less exciting but worth understanding if you think might one day want to use their services.

## Big players behind the scenes

If you're wary of monopolies, you may be reassured by the large number of sites—there are several thousand in all, and seemingly more every day. At first glance, it seems as if there is no dating equivalent to Google or Amazon with a stranglehold on the market. In fact, a little-known player, InterActive Corp (IAC), dominates the field through its Nasdaq-listed subsidiary Match Group. IAC owns about 50 brands including Tinder, Plenty of Fish, Match, OkCupid, Hinge and Meetic. The daters' diverse amorous inclinations and sexual orientations explain why one company would have so many brands. Having several in its portfolio helps a firm broaden its customer base, catering for specific interests without losing consumers who flit from one platform to the next.

So in addition to the standard worries about a monopoly being able to push up prices, there is the fear of poor-quality service. The classic business model for dating platforms entails netting customers with a free, no-frills deal and then converting them to a more comprehensive, paid contract. The drawback is that once someone has found their ideal partner, hitched up, gotten engaged and/or married, they will cease being customers—for a time, at least. Competitive focus on quality counteracts



a firm's understandable temptation to hold back on improvements in the code that would yield more durable relationships.

From a strictly business point of view, it is more profitable for sites to prioritize brief encounters. All the more so as free deals generate substantial advertising revenue. But some sites claim to specialize in the quest for a soul mate—just the name of Match says it all. Then there's <a href="Facebook Dating">Facebook Dating</a>, a newcomer that has yet to make its mark. Its approach nevertheless seems credible, operating as an add-on to the global social network, rather than a stand-alone profit center.

## Data, data everywhere

Regardless of a specific platform's approach, you should pay attention to how much personal data they gather and how careful they are with it. Dating sites record and store intimate details, going far beyond your name, address and credit card number. OkCupid asks prospective members hundreds of questions, such as "Have you ever gone on a rampant sex spree while depressed?", or "While in the middle of the best lovemaking of your life, if your lover asked you to squeal like a dolphin, would you?"

For those wondering if I'm some kind of sexual deviant, I discovered these <u>odd questions</u> without having to sign up for OkCupid—in 2016, two Danish students posted data hacked from <u>70,000 accounts</u>. The year before, another group stole details of <u>several million Ashley Madison users</u>. (As the site specializes in extra-marital affairs, infidelity may come at a high price.) There have been dozens of similar incidents, mainly concerning little-known, short-lived sites that escape public notice, making it more difficult to check and sanction their dubious methods.

Data may also be shared with third parties, such as technical service



providers involved with the site, or sold for advertising. There is little likelihood of criminal misuse but it may nevertheless prove embarrassing. In 2018 it was revealed that Grindr—a dating app for gay, bi- and trans-sexual people—shared not only the address and telephone number of members with software designers, but also their HIV/AIDS status.

## Online dating, national security

This year Grindr was back in the news for other reasons. After two years of nuptial negotiations it accepted the hand of a Chinese company specializing in online games. Unfortunately, the firm apparently omitted to report the takeover to the CFIUS, tasked with checking the national security implications of foreign investments. Fearing that the People's Republic of China might use personal data to blackmail US citizens—potentially including members of Congress and government officials—the committee ordered an immediate divorce. Earlier this year a group of California-based investors finally purchased the platform.

Your data will be better protected if you live in Europe. It will be easier to access and check the trail of data you have left behind, like so many pebbles... or boulders. You may be surprised by the volume of material that has accumulated over the years. As <u>Judith Duportail detailed in *The Guardian*</u>, "I asked Tinder for my data. It sent me 800 pages of my deepest, darkest secrets."

This brief tour suggests that it would make sense to subscribe to more than one site, each owned by different companies. You should find out whether they specialize in long-term relationships or one-night stands, lean toward sites with a clearly registered office, and thoroughly check the terms of use regarding personal data. You could even adopt the same tactics as when purchasing a lawnmower or a clothes iron, and check out the relevant surveys and tests published by impartial organizations such



as **Consumer Reports**.

TABLE 2: MARKET SHARE BY REVENUE

Dating Firm	Dating Apps	Global Yearly Revenue	Market Share
Match Group	Tinder; Match; OkCupid; Hinge	1.7 Billion <sup>88</sup>	66.4%
eHarmony	eHarmony; Compatible Partners	275 Million <sup>89</sup>	10.8%
Bumble	Bumble; Chappy	200 Million <sup>90</sup>	7.8%
Zoosk	Zoosk	178 Million <sup>91</sup>	7.0%
Spark Network	Christian Mingle; JDate	123 Million <sup>92</sup>	4.8%
Grindr	Grindr	77 Million <sup>93</sup>	3.0%
Coffee Meets Bagel	Coffee Meets Bagel	6 Million <sup>94</sup>	0.2%

Market share in the online-dating industry. Credit: <u>Antitrust and Commitment Issues: Monopolization of the Dating App Industry, Evan Michael Gilbert</u>

#### How couples form

For the less practically minded, the theory of how couples form may be instructive. In Plato's "Symposium," the Greek playwright Aristophanes recalls one of the oldest explanations. According to Greek mythology, humans were originally created with four arms, four legs and a head with two faces. Fearing humans' power, Zeus split them into two separate beings, condemned to spend their lives in search of their other halves.

In <u>A Theory of Marriage</u>, Gary Becker, winner of the 1992 Nobel prize



for economics, took a more down-to-earth approach while still assuming that humankind's yearning for union is governed by the quest for our other half. In Becker's theory, thanks to the "complementarity" of partners' specific qualities, they make the most of living as a couple with children, a home and a car. While this was the first attempt by an economist to address the matter of marriage, it was a wholly theoretical exercise, with no empirical data. The Internet did not exist at the time and matrimonial agencies did not record information of any statistical value.

Note that in the two narratives there is no mention of jealousy or rivalry between fellow humans. The prevalent theories of couple formation hinge largely on competition. The guiding principle is as follows: individuals rank possible partners in order of preference or, indeed, desirability. They propose to the person they prefer or find most attractive, but they are not alone in doing so. In turn, the potential partner has their say in the matter, potentially turning down the proposal in the hope of finding an even better party.

A well-known model for matching up all these competing parties was designed by mathematician David Gale and economist Lloyd Shapley. It yields a stable allocation by which everyone finds a suitable match: none of the couples it forms may deviate in a way that would allow either member to fare better. If one wants to pair up with a more attractive person, the latter partner will lose out, the new one necessarily being not as good as their current one. In other words, it's no use courting someone who is out of your league, because a more appealing rival will win their heart and oust you. Matching occurs between equally attractive partners, which is another form of complementarity. It is possible to demonstrate mathematically that the same balance, the same optimal allocation, is achieved, whether a couple forms through complementarity or rivalry.

## Matching up, or trying to



Of course, ideal allocation is only possible by simplifying assumptions, particularly regarding individuals' order of preference and how well they know each other. Things are not the same in real life, which is inevitably more complex—otherwise, no one would divorce.

For instance, one can well imagine that subscribers to dating apps or sites are angling for a partner more alluring than themselves—in short, better looking and wealthier. Another academic duo, this time comprising a physicist and a sociologist, drew up a hierarchy of desirability based on the number of messages received in one month by users of a US-based heterosexual site. A 30-year old woman from New York City registered the highest score, with more than 1,000 messages. They also classified users with Google's Page Rank algorithm, which estimates the popularity of web pages. On average, daters of both sexes target partners who are 25% more desirable than themselves.

Another team of researchers <u>propose a model</u> to explain such behavior, based on a trade-off between reaching for the sky and prompting reciprocal interest. The higher up you aim, the more you risk to exceed your own desirability and the less likely you are to connect. In theory it's easy enough to select a prospect and reach out—you just scan a few dozen profiles, "like" a photo or add a quick message—but the time and effort involved, and hence the cost, are far from negligible. Not to mention there's the unpleasant experience of being ignored or rebuffed.

One intuitive way of interpreting this model is that men and women are not very good at gaging the desirability of potential partners and consequently rely on the other making a mistake—by chance, he or she may not notice the hierarchical difference. It's certainly worth a try, but not all the time, as such advances are costly.

Predictably, men do not appear in a particularly good light. Data from heterosexual dating sites show that men tend to contact women who are



more petite, younger and less educated than they are. They also attach greater importance to physical attributes than women do. Similarly, men respond to 60% of all contacts, whereas their female counterparts only respond to 6%. (These figures were provided by Tantan, the Chinese equivalent of Tinder.) Tragically, 5% of male daters never get an answer to their contacts. Tinder reports a similar imbalance in the share of likes, with women accepting 12% of contacts, compared with 72% for men.

It would be interesting to see the figures from Bumble, which is nearly as popular as Tinder, only women can start a conversation. In a short time, this simple innovation has convinced a large number of followers to "Join the Hive." For a change, it's the men who must wait to be contacted.

### Mirror, mirror...

With regard to <u>endogamy</u>, the preferences revealed by dating platforms hold few surprises. Users would rather relate to partners of the same skin color and creed. But what is much more interesting is to compare behavior online to the more <u>conventional alternatives it has partly replaced</u>. Before the Internet, marriages resulted from initial meetings brought about by family or friends, in bars or cinemas, at school or university, at work or, perhaps less commonly, at church, or indeed through classified ads. In the past 30 years all these forms of mediation have declined.

In the United States, dating platforms have become the dominant means of meeting potential partners. But couples formed after an initial contact online are characterized by greater <u>exogamy</u>, with a <u>larger share of interethnic or inter-faith marriages</u>. At the same time dating platforms have made it easier for people with less mainstream sexual preferences or orientations—and consequently fewer options in their immediate social circle—to find a suitable partner. In the United States, 70% of same-sex



couples met their partner online, a rate that is more than <u>three times</u> <u>higher than for heterosexuals</u>.

Comparison with <u>conventional dating also suggests</u> that meaningful relationships following an initial contact online <u>last longer and are more fulfilling</u>. By substantially increasing the number of potential partners—beyond the limits of family, friends and workplace—online dating platforms offer a better chance of finding a good match.

There is still much to be learned about dating sites, but by now you should know enough to decide whether or not to venture online, be it in search of a quick fling or a life-long mate. Enough too to form a less subjective opinion on their social utility.

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