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# eHarmony

Greg Waldorf, the CEO of eHarmony, was in his car driving down the Interstate 10 Freeway after a day-long meeting with eHarmony's senior leadership team. The sole purpose of this October 2007 meeting was to decide how the company should address recent competitor actions. After many deliberations, Waldorf's executive team was able to identify four strategic options. Now, Waldorf and Greg Steiner, the President and COO, who was sitting next to him, were debating which option the company should pursue.

As the two whizzed down the car pool lane, passing cars stuck in traffic, they reflected on eHarmony's success. This online personals site targeted marriage-minded individuals and offered a unique product which combined an extensive relationship questionnaire, a patented matching system and a guided communication system. Despite charging a premium for its services, eHarmony had experienced phenomenal membership growth while its competitors stalled. As a consequence, it was able to increase its paying membership base to slightly less than a half of its largest competitor, even though it entered the market six years after they did.

The success of eHarmony did not go unnoticed. From the beginning, competitors had been copying some of the company's product features and closing the price gap. More recently, Match, eHarmony's biggest competitor, had increased its advertising expenditures by 80 percent. Some of the increase was aimed at reviving Match's sagging growth. However, most of it was spent on supporting the growth of Match's new dating site, called Chemistry, which like eHarmony was a match-making service. It utilized different matching criteria and methodology, and was priced roughly 10% below eHarmony. To make matters worse, free personals sites and online social networks were exploding in popularity, challenging the business model of paid online personals.

As the two approached downtown Los Angeles, the carpool lane came to an abrupt end, leading them into a dense traffic jam. They could not help but wonder—was this also eHarmony's future, or would one of these four options provide them with a new on-ramp to fuel growth and profitability?

## Marriage Markets

Although the institution of marriage had differed substantially through time and across cultures, at the beginning of the 21st century, it remained one of the most central social institutions throughout the world. Created by a contract between two people, usually one man and one woman, marriage conferred special state, social, or religious privileges. It allowed a couple to share wealth; it regulated inheritance arrangements; and it legitimized sexual relationships and reproduction. It also regulated

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political and commercial ties among families from which the couple descended. Spouses were expected to remain exclusive to each other and, traditionally, couples followed a strict division of labor, with women responsible for childbearing and men engaged in outside labor. Although this arrangement often led to significant power inequalities in the relationship, couples were expected to stay married until one partner died, with divorce being rare. Some cultures even regulated patterns of re-marriage, expecting, for example, a widow to marry the brother of her late husband.

In some cultures, couples were betrothed to each other by their families even before they became teenagers. Other cultures allowed the process to take place later, but still with significant assistance from family, close friends, elders, or even astrologers. In some instances, third-party matchmakers were employed to find advantageous mates. Even as modernity progressed, people were expected to choose their spouses through an elaborate process, often overseen by parents. In the U.S., the concept of a potential couple meeting privately at specified times and places to get to know each other started among middle-class teenagers in the 1920s.[1] However, such encounters remained relatively formal through the 1950s. Cultural changes brought more freedom in the 1960s, with the first TV show focused on dating appearing in 1965.[2] By this time, most individuals found spouses through friends, colleagues, or family members, or at work, church, or school.[3] By the early 1980s, the concept of marriage had evolved from a functional partnership to an institution based on "love, sexual passion, or even close friendship."[4] Indeed, Americans no longer believed that the purpose of marriage was to have children. Now, 70% wanted "their spouse to make them happy."[5] This shift in expectations made potential spouses less of "search goods," with clearly identifiable characteristics, and more of "experience goods," which could only be "judged by the feelings they evoked rather than the functions they performed."[6]

*Modern Marriage Markets*

These cultural changes, coupled with several economic factors, had a substantial effect on the marriage market in the 21st century (see **Exhibit 1**). First, only about 16% of U.S. singles (about 7% of the adult population) reported currently looking for a romantic partner. Men were less active than women in going on dates, but men and women were equally likely to report that it was difficult to meet people.[7]

Second, the marriage rate had reached its lowest point in recorded history. In 1890, men married at a median age of 26, while women typically married at 22.  By 2004 the age had increased to 27 for men and 26 for women (see **Exhibit 2**). The later marriage age was partly attributable to cohabitation before marriage. Only 25% of those who cohabited got married within five years of first moving in together, but almost 60% of those who married in the early 2000s had lived with their future spouse for two years before getting married.[8] Between March 1995 and March 2005, cohabitation rates had risen from 2.9% of adults to 4.7%.[9] Although the cause was uncertain, couples who lived together before marriage were 50% more likely to get divorced than non-cohabiting couples.[10]

Third, divorce rates had changed substantially. Starting from a low rate in the 1950s, the divorce rate rose rapidly in the mid-1960s, reached its peak in 1981, and had been declining since.[11] The divorce rate was lower for people who were well-educated, wealthy, and religious, and for those who married someone of the same race after the age of 25, came from an intact family, and did not have a child before marriage (see **Exhibit 3**). A general increase in the age at first marriage and the educational attainment of married couples were often used as explanations for the overall decline in the divorce rate.[12] Despite the trend, the American marriage market experienced more "churning" than most developed nations (see **Exhibit 4**). Whether this was caused by financial disagreements, infidelity, communication problems, sexual problems, mid-life crises, addictions, career strains, and/or emotional or physical abuse, divorce put an end to about 45% of marriages, with most

divorces occurring in the fourth year of marriage.[13] Americans were also more likely to re-marry, with a median time between divorce and second marriage of 3.5 years, and with men more likely to get re-married. 12% of men and 13% of women had married twice, but only 3% of either group married three or more times (see **Exhibit 5**).[14]

## Personals Industry

The oldest surviving record of a personal ad was published in the *Collection for the Improvement of Husbandry Trade* in 1695. It read: "A Gentleman about 30 years of age, that says he has a Very Good Estate, would willingly Match Himself to some young Gentlewoman that has a fortune of 3,000, or thereabouts." As time went on, personal ads became more common, particularly where men faced a shortage of women. An ad for "any gal that got a bed, calico dress, coffee pot and skillet, knows how to cut out britches and can make a hunting shirt, knows how to take care of children can have my services till death do us part" would not be unusual on the American frontier.[15] Women, however, were often not allowed the same social rights. Helen Morrison, for example, a lonely English spinster, placed a personal ad in 1727 in the Manchester Weekly Journal; the ad caused so much stir in the community that she was committed to an insane asylum for four weeks.[16]

As dating became more popular in the twentieth century, individuals began to advertise for potential partners more frequently. Initially people took out personal ads in newspapers and magazines. These ads usually gave a short blurb about themselves and the type of partner they sought. Increasingly sophisticated communication and recording technology led to the creation of telephone personals. The advent of video tapes in the 1980s brought images to personal ads, which could be cataloged by dating services and exchanged among spouse seekers. These services were complemented by professional matchmakers, who charged up to 100 times more for their services, but who used individual interviews and background checks to personally select dates for clients.

### Internet personals

The advent of the Internet expanded partner seeking opportunities. The first online personals firms, started in 1992, met with lukewarm response. Internet savvy people were the most likely to try the new services, but these individuals preferred to meet future spouses through AOL chat rooms or free bulletin boards. By doing so they could avoid the social stigma of being on an online personals site, which at the time was considered appropriate only for the truly desperate. The use of the Internet for quick hookups made the stigma even worse. Even as paid online personals sites became more acceptable, the level of customer dissatisfaction remained high. Frustration and disillusionment affected the serious relationship segment the most. Successful customers got married and left the site; few would publicly admit to having met online. Those who could not find a match remained in the market, vociferously complaining about the problems with online dating. As a consequence, the online personals market was growing very slowly, reaching only $40 million in 2001.[17]

By 2005 the situation had changed dramatically, with 16 million people claiming to have visited an online personals site at least once.[18] Growth was attributed to changes in attitudes toward online dating; social acceptability grew as more people knew someone who had met their spouse online. This change in attitude was so extensive that it even benefitted offline matchmakers, whose number increased by 25%, despite charging $1,500 to $10,000 for their services.[19] Initially, online daters were younger than the general population, but quickly the 40– and 50–year-olds became the fastest-growing segment of the market (see **Exhibit 6**). Significant growth also came from people who signed up at the request of their families. This category could comprise as much as 20% of paying members, although this number varied depending on the target market of the site. Of those who had ever used

personals websites, 45% had never been married; 31% were divorced, separated, or widowed; and 23% were married.[20] Seven million people had gone on dates with people they had met through an online personals site, with 40% entering some type of a long-term relationship. Of the 2.2 million marriages that took place every year in the U.S., reportedly 120,000 occurred between people who had met on an online personals site.[21] Industry insiders claimed a much higher rate, believing that nearly one-fifth of marriages were initiated through an online encounter.

After 2005 the percentage of Internet users who visited online personals sites fell from 20% to 10%, but the decline in visitors did not translate into a decline in paying subscribers, allowing the industry to grow to $900 million in 2007. Many believed there was still substantial room for growth in the market (see **Exhibit 7**). Only 37% of people who declared themselves as looking for a relationship and with access to the Internet had actually been to a personals website. However, once someone subscribed to a service they tended to be repeat customers of online personals sites. Consequently, observers believed that the industry could double in size by 2012.[22]

## eHarmony

eHarmony was founded by Dr. Neil Clark Warren and his son-in-law, Greg Forgatch, in 1998. The company officially launched in August 2000, six months after receiving $3 million from a Houston investment firm, Fayez Sarofim & Company.[23] After earning his Ph.D. from the University of Chicago, Dr. Warren spent 35 years as a practicing psychologist focused on marriage and family relationships. During that time, Dr. Warren had also written nine books on love, marriage, and emotional health and made numerous appearances as a speaker at conferences and seminars as a relationship expert. Warren had also been dean of the graduate school at Fuller Theological Seminary. With decades of professional counseling experience, Dr. Warren saw the opportunity to help people with mate selection. He focused eHarmony on singles seeking a serious relationship—a segment of the market that had not been well served until then. Unlike other websites, eHarmony also introduced matching on the basis of long-term compatibility.

In the early years of eHarmony, Dr. Warren worked very hard to spread the word on eHarmony's unique offering. He appeared on a wide range of TV and radio programs including local news programs, two appearances on *Politically Incorrect* with Bill Maher, and *Good Morning America*. A major breakthrough occurred in August 2001, after the company was featured on a Christian radio program affiliated with Focus on the Family, an evangelical organization, which had published some of Warren's books. eHarmony's focus on serious relationships resonated well with faith communities—a market segment also untapped by traditional dating sites—resulting in over 100,000 registrations in just a few weeks. By early 2002 registrations had grown to over 300,000, allowing the firm to break even that year and become cash-flow positive the next.[24]

Subsequently, the company expanded its TV and radio advertising campaigns to appeal to a broader audience.[25] As a result, by early spring 2004, eHarmony hit three million registrations, at least 40% of which were considered active users. The company was famous for being able to convert these active members to paying members three times more effectively than the industry average.[26] Later that year, Technology Crossover Ventures and Sequoia Capital invested in the company. In 2005, Greg Forgatch stepped down as CEO, while continuing to serve on the board of directors. Greg Steiner, previously the Vice President of Operations, stepped into the President and COO role. The Board led a search for the CEO position, with Greg Waldorf, the founding investor and Board member, taking the role temporarily and leading the search process. Ultimately, the Board asked Greg Waldorf to remain on as CEO permanently.[27] Under Steiner and Waldorf's leadership the company grew to 230 employees, approximately a half of whom were in customer service.

*Product*

eHarmony distinguished itself from other personals sites by offering a tightly integrated system that encompassed a Personality Profile, which fed into a matching algorithm, which then led to a Guided Communication system.

**The Personality Profile** initially contained 436 questions, which the company pared down to 258 (see **Exhibit 8**). The questions covered 29 basic measures of compatibility, including personal lifestyle preferences, communication style, values, beliefs, attitudes, personality traits, family background, birth order, energy level, intelligence, spirituality, special interests, and future aspirations. eHarmony developed the Personality Profile internally. "We went through the whole process of establishing content validity and developing a voluminous set of items to assess the domain. We then had different people look at the items and pare them down and give them to focus groups, and then to larger groups to get some initial estimates of reliability. We were quite rigorous in every step of developing the questionnaires of personality, values, and interests, which were the three primary constructs" recalled Dr. Galen Buckwalter, Chief Scientist at eHarmony. Having developed the instrument, Warren and his team surveyed over 2,000 couples before the website was launched.

The Personality Profile formed the central part of the Relationship Questionnaire, which was required of anyone who wanted to become an eHarmony customer. The questionnaire was free, but the original version with over 450 questions required at least 1.5 to 2 hours to complete.[28] More recently, the questionnaire has been abbreviated to about 250 questions, which takes about 45 minutes to complete. Men were less likely to complete the questionnaire once they started. Waldorf explained: "Since it is hard to sign-up, the eHarmony person self-selects. There is a shared sense of investment to be part of eHarmony. It says, "I'm serious." Despite the length of the questionnaire, more than 14 million people completed it in the first seven years of eHarmony's existence.

The completion of the Relationship Questionnaire did not automatically guarantee access to the service. The company declined to sell memberships to as many as 20% of its potential customers. The majority of the time, the company declined to sell memberships because people were already married, followed by those who were underage, or had been divorced more than three times. This policy was challenged in a lawsuit, Claassen v. eHarmony, filed by a married man under California's Unruh Civil Rights Act accusing eHarmony of discriminating against him because he was not offered a membership due to his marital status. When the Plaintiff registered for the site, he was married and living with his wife , which was inconsistent with the company's policy that all of its members be "free of relationship commitments."

Since its inception, the company has declined to sell memberships to at least one million people who sought to become paying customers, costing the company an estimated $10 million per year. Waldorf believed this was a sound business decision: "We leave a lot of short-term value on the table, but the idea is to keep the quality of our pool really healthy."[29] The final distribution of members reflected the geographic distribution of the U.S. quite well, with a slight skew toward less populous areas. Approximately 60% of eHarmony users were women, who generated slightly more than two-thirds of visits to the website.[30] In 2007, people 45 years and older constituted the fastest-growing segment of users for the company.

The company also did not offer its singles matching service to women seeking women or men seeking men. This choice has attracted considerable positive and negative attention. Given eHarmony's limited resources and the relatively small size of the same-sex market, the Company did not believe it made sense to enter that marketplace. eHarmony did not exclude the possibility that it

would engage in the research needed to establish statistically valid and reliable matching models for the same-sex market in the future. The company also faced a second lawsuit, which it believed was baseless, also under California's Unruh Act, Carlson v. eHarmony, filed by a lesbian woman accusing it of discrimination because it does not offer services for people who want same-sex matches. Other companies that specialize in same-sex matching that do not offer opposite-sex matching have not been targets of similar litigation.

**Matching Algorithm**  After an applicant had completed the Personality Profile, the answers were fed into the matching algorithm. If the applicant had the potential to be successfully matched, then she or he would be able to purchase a subscription. The matching algorithm had been developed by a team that included Warren and Buckwalter, among others. Although most psychological literature on the topic suggested that "opposites attract," Buckwalter recalled that the team was "convinced that successful relationships were almost universally characterized by a high degree of similarity, particularly in areas like intellectual ability and emotional stability. We considered similarity to be more important for personality characteristics, then values, then interests. We also thought that agreeableness and emotional stability were very important." Having identified the algorithm, the team set out to conduct a set of studies of married couples to test and refine it. Buckwalter believed that "the ideal design would have been a longitudinal study, but we could not do that within the constraints of the business model. So the decision was made early on to study married couples, and to make the assumption that if we got really good at predicting satisfied and happy marriages, that we could apply that to singles." Between 2000 and 2004, eHarmony did numerous rounds of matching algorithm validation with over 4,000 couples. The results were very encouraging:  the algorithm could predict to a high degree of accuracy whether couples would end up in the top quartile of the Dyadic Adjustment Scale, a tool used by researchers to measure long-term relationship happiness.[31] The company secured a patent for the algorithm in May 2004. Although critics believed the patent amounted to little more than a marketing gimmick, further company research revealed that successful couples who had met on eHarmony were significantly happier than couples who had met "in the wild" or through other online means.[32]

When eHarmony made a match between two people, both sides were informed and could review basic demographic characteristics about the other, along with answers to some of the "about me" questions (cf **Exhibit 8**). Each party could then decide whether to start communicating. If one of them decided not to pursue the match, both sides were informed and the match was considered "closed." Although the matching system took full advantage of the initial Personality Profile, it did not use information from the matches a customer decided not to pursue. "You don't like that this person has a pet, or you're a vegetarian but you keep being matched with hunters" reflected one eHarmony team member. Improving the ability of members to set screening preferences was a next generation feature in the works.

In order to communicate with one's matches, a member had to buy a subscription, for which eHarmony charged almost twice as much as other online personals sites (see **Exhibits 9** and **10**). "Subscription is driven by how users like their matches. It's almost like everyone has an implicit dollar amount they are willing to pay for a match. We can predict re-subscription rates based on the number of hypothetical pairings—how many matches are available for a person—so people who are easier to match are more likely to re-subscribe," commented Waldorf. He continued: "People see the value of a good match when they see an attractive profile, of which an important piece is the photo. Philosophically, we are trying to help people get to know each other more deeply and at a more fundamental level. But we had to face facts that members who have photos are between 9 and 15 times more likely to receive a message. Now, 80% of paying subscribers have a photo posted."

The distinction between paying and non-paying members created some problems for the company. Non-paying members were still matched to others, meaning that a paying member could initiate an interaction, leading to the conversion of non-paying members to subscribers. However, some paying subscribers felt frustrated by this system. "If I am a paying user and you are not, I can send you a message and you might never respond because you don't want to pay. And then I don't know—did you not like me? Did you even see me? I want some kind of feedback. Otherwise, it feels like I am investing all this time to start communication but after all this investment, I never hear back," reflected an eHarmony user. To address this concern, eHarmony was considering adding a feature to allow users to see which messages had been read.

**Guided Communication**   Unlike the matching algorithm which was the result of intense study, Warren came up with the initial design for Guided Communication, which led potential couples through a set of questions before allowing them to communicate directly. Based on his years as a clinical psychologist, Warren believed that people, when left on their own, would "gravitate to the most superficial questions, like sports or activities, not to what really matters in relationships." Waldorf echoed the sentiment: "you need to give people a way to talk about deep issues such as children and ideal locations. Guided Communication allows for such information-seeking without the social stigma."

Guided Communication comprised three distinct activities. First, each member in the pair was asked to choose five easy-to-answer questions from a list provided by eHarmony, and send them to their match. Questions such as, "If you were taken by your date to a party where you knew no one, how would you respond?" would be followed by multiple-choice answers, such as "(a) Stay close to my date, letting him/her introduce me, (b) Find a quiet spot and relax alone, (c) Strike out on my own and make friends, or (d) Ask my date if I could skip the event." Once both parties answered, they moved to the next stage where they were asked to exchange their personal list of "must haves" and "can't stands." In the final stage they were asked to exchange three open-ended questions to allow for more detailed description of both parties' values. eHarmony provided some sample questions, such as "What person in your life has been most inspirational, and why?" or "Tell me about your closest friend. How long have you known them, and what do you like best about them?" But members could also write in their own questions. Once this exchange was completed, and a message from Warren was displayed, the two parties could move into Open Communication. During Open Communication the pair could send emails to each other, exchange photos, and prepare for their first meeting. A potential couple could then decide when, where, and how to meet in the offline world if they wanted to pursue a relationship. Buckwalter commented, "When people meet in person, they have all this collective history and discussion, and it's almost like they know each other right off the bat." The company estimated that on average a successful subscriber took four to six months to get matched to someone they would eventually marry.

At any point in the process, either party could "close" the match and cease any further communication. Given the number of opportunities to drop out, only 20% to 30% of matches ended up in open communication. Upon mutual agreement, the pair could also elect to Fast Track their interaction directly to Open Communication, without going through Guided Communication. Only 10% of eHarmony members used Fast Track. Though men had most frequently requested the Fast Track feature before its introduction, they were less likely to use it, because within the standards of eHarmony it could be seen as intrusive. The company recently allowed users to state their preferred communication method, leading to a tripling of Fast Track requests. Members who used Fast Track communicated with more potential matches and renewed their subscriptions more often, leading to higher lifetime value. "These people come to us because they want to meet somebody, and they want to interact to determine whether they would like to get to know their matches better. The first step is

emailing back and forth, then talking on the phone, or meeting in person. Our members who are able to do this more quickly have a higher satisfaction rate and stay on the service a lot longer" commented a senior Product team member.

The results of this integrated system were astounding. eHarmony commissioned a study, conducted by Harris Interactive between August 2004 and August 2005. The study found that on average, 90 eHarmony members married every day in the United States as a result of being matched on eHarmony.[33] A follow-up study in 2007 found that on average, 236 eHarmony members marry every day in the United States as a result of being matched on eHarmony, representing a stunning 2% of marriages in America.[34]

### Marketing

To support growth in its membership base, eHarmony invested substantial resources into marketing. The company aired its first radio commercials in 2002, with TV spots following in June 2003. Soon thereafter eHarmony stumbled on a very successful campaign, which paid for itself in increased subscriptions within a week! It featured testimonials from happy couples who had found love through eHarmony, in short upbeat segments. A senior marketing team member believed that the commercials clearly communicated that "eHarmony is about serious relationships and helping people find lasting love. Nothing could convey this more authentically than the couples. A lot of our early growth came from bringing people into the category who previously wouldn't have considered online dating, because it seemed too sleazy, too casual." Although there were at least 100 different executions of the campaign, the couple was always placed against a white background and accompanied by Natalie Cole's "This Will Be" song. The spots often mentioned the Personality Profile, the 29 dimensions of compatibility, and automatic matching. Warren, a "wise, experienced doctor," was also featured prominently in the ads, although it was never explained that he was a psychologist.

In 2007, the company was considering adjusting its four year old signature campaign to appeal to those interested who have so far shied away from eHarmony's service. The new campaign featured spots focused on one couple, shot in their real environment in a documentary style, highlighting that couples love story. Any changes to eHarmony's successful marketing formula had to be introduced with care; the company had earlier experimented with telling the story of lonely individuals who were afraid that they would never meet anyone, followed by a happy conclusion. These commercials backfired, because "the initial ten seconds spent recounting the 'problem' just flared up anxiety in people and dampened our response rates… so we went back to focusing on the end benefit," explained a team member.

The successful advertising formula made eHarmony one of the few online companies that made offline marketing work and pay for itself. But with marketing expenses reaching as much as $80 million per year, firm profitability depended on efficient customer acquisition. eHarmony was extremely judicious in its use of advertising dollars, avoiding any pure brand-building activities and focusing on direct-response marketing. The marketing team worked only with advertising and media buying agencies, "who really understood direct-response advertising…  This means they are incredibly diligent about buying media at lower rates – both by locking in good 'upfront' deals and searching for last-minute remnant inventory." As a result, eHarmony advertised only on national cable networks and avoided broadcast television, where prices were higher because local stations allowed for greater targetability than national cable. Match, eHarmony's close competitor, used broadcast TV and aired its commercials during primetime shows, paying $20 to $30 per thousand impressions—at least four times more than cable TV prices.

With three-quarters of the marketing budget spent on TV and radio, eHarmony spent the remainder on online marketing, including paid Internet search and banner ads. The latter had high visibility and got decent click-through rates, but the conversion rates were low, which made banner search more expensive than paid search in terms of customer acquisition.

### Research & Development

Since its inception the company had made significant investments in R&D, culminating in the opening of eHarmony Labs in 2007. Staffed with five research scientists, the Labs were tasked with studying the biological, sociological, and neurological underpinnings of love. The Labs boasted over 2,000 square feet of clinical space, including several rooms set up with chairs and couches. In this setting, couples were observed as they interacted to examine relationship dynamics.

eHarmony was also pursuing research on physical attraction. Buckwalter noted that "physical attraction plays a large role in the initial meeting but is a very poor predictor of long-term success. After the initial meeting, people find themselves attracted to others with whom they share common values. But if we can give people matches with whom they're also going to feel this 'click' factor, they're more likely get to the point of actually developing a relationship."

Finally, the company has invested substantial resources into a five year study of 400 couples. Couples were enrolled during their engagement and followed through their marriage and subsequent life stage transitions, such as pregnancy and childbirth. Early results already suggested that "the biggest adjustment of every marriage is the birth of the first child." Now, the study sought to identify what characteristics and behaviors in couples predicted successful transitions. The company believed that its team of research psychologists was uniquely positioned to identify specific insights and turn them into products and services that could become new businesses for eHarmony.

## Competitors

### Competitor Types

**Paid Do-It-Yourself sites** were the most common type of online personals site. Some of eHarmony's direct competitors, such as Yahoo! Personals and Match, were in this category. In contrast to eHarmony, these sites put up very few barriers to joining. Individuals were required to provide basic information about themselves, such as their age, location, gender identification, and sexual orientation. Optionally, they could provide a short blurb about themselves and provide a set of pictures. For most heterosexual sites, men were more likely to sign up than women. As soon as the short registration process was complete, individuals could specify the criteria for their partner search. The website instantaneously provided them with a set of profiles and pictures of individuals who matched their search criteria. Members could then browse profiles to identify their own choices for a match. Some sites allowed unlimited browsing, and all required a subscription to communicate with other members. On average, 5% of those who signed up became paying subscribers, with men more likely than women to sign up. Paying members had little loyalty and, on average, belonged to at least three other personals sites, either as visitors or paying members.[35] Sites tried to develop some differentiation by offering compatibility tests, or by conducting background screenings to weed out sex offenders, felons, and married people, but most of these features were ineffective or easy to replicate. Perhaps the only meaningful distinction was the advertising spend.[36] One firm, True, spent $90 million on advertising in a single year—an amount that exceeded its revenues numerous times, without much long-term impact.

The process of looking for a match was fairly time consuming. By some estimates, online daters spent nearly seven times as long searching for potential partners as interacting with them. Heterosexual sites reported fairly skewed patterns of interactions, with a select group of women being inundated by messages from men. Patterns of interactions between the two genders could be easily predicted by basic characteristics. A study of speed-dating found, for example, that "men avoided women whom they perceived to be smarter than themselves. When women were the ones choosing, the more intelligence and ambition the men had, the better.…Women also exhibit a preference for men who grew up in affluent neighborhoods.…Women also put greater weight on the intelligence and the race of the partner, while men responded more to physical attractiveness."[37]

Online interaction was designed to lead to offline meetings. However, researchers found that online daters typically "ended up going out with fewer than 1% of the people whose profiles they studied, and….those dates often ended up being huge letdowns."[38] Acknowledging the difficulties of dating in general, researchers found that "most participants were so dissatisfied with both online and offline dating that they would have preferred to stay home and watch a movie."[39]

**Free Do-It-Yourself sites** had been rapidly growing in membership base. The growth defied the common industry wisdom which claimed that requiring people to pay to join a dating site served as an important barrier separating lurkers and casual daters from serious ones. Being free, these sites could attract members quickly, leaving it to the members to interact with the vast number of others to identify their own match. In addition to SinglesNet, the fastest growing among these was Plenty of Fish, founded by a 29-year old entrepreneur in Canada, Marcus Frind. Despite a terrible user interface, Plenty of Fish had become the most frequently visited dating site in the U.K. and Canada and had reached No. 4 in the U.S. by the end of 2007. Although Plenty of Fish only had half as many visitors as eHarmony, the website received 20% more visits than eHarmony did. Such user engagement on the site resulted in 900 million page views per month, allowing this one-person company to become one of Google's AdSense top earners, with revenues close to $500,000 per month. A significant portion of this revenue came from referring people who were dissatisfied with the quality of matches on Plenty of Fish to more selective paid sites, such as Match or eHarmony. Not all free personals sites were equally successful, however. OKCupid, started by the founders of eDonkey (a free file-sharing service), was only beginning to catch up, despite having a more appealing interface and much better functionality. Some sites, such as Craigslist, did not even care about making profit, even though they possessed a significant market share of personals, particularly those targeted at casual hookups. Few doubted that the existence of these sites put a cap on how much the paid sites could charge for their services (see **Exhibit 11**).

**Niche sites** were also in competition with eHarmony. Waldorf referred to the niche sites as "community of interest sites," which he said were "characterized by low customer acquisition costs. For the generalists, it is basically a customer acquisition story." The gay and lesbian market was the largest niche market, attracting about a tenth of the internet traffic of the heterosexual personals sites.[40] . Some sites catered exclusively to this market, while others added it on top of heterosexual matching.  Sites targeted at African Americans, such as BlackPeopleMeet or Black Singles, were a close second, followed by faith-based personals site, which included sites such as JDate.com, ChristianSingles.com, Hindu-Dating.com, Muslima.com, and LDSsingles.com. Of these, JDate, targeted at a Jewish audience, was considered the most successful, with almost 10% of Jewish singles enrolled on the site. Other sites covered just about every conceivable demographic—some targeted at graduates of elite colleges, such as TheSquare, others focused on people with health conditions, such as HIV, Crohn's disease, cancer, or diabetes. Internet users could also sign up on RichorBeautiful, HotEnough, or HotorNot, as well as SingleParentLoveLife, SweetOnGeeks, FarmersOnly, SugarDaddyForMe, VeggieFishing, and GothScene, not to mention MarriedButPlaying. Overall there

were at least 850 different personals sites on the Internet. About the same number entered the industry every year, with most failing quickly without making a penny of profit.[41]

**Online social networks** provided an important substitution threat to the online personals industry. Large online social networks, such as MySpace or Facebook, did not have to incur the vast advertising expenses required to attract customers, instead relying on a "viral" process through which friends encouraged their friends to join. Such networks also held a significant advantage over personals websites in the veracity of information they provided about potential matches. The online dating industry was plagued by people misrepresenting personal information—ranging from subtracting a year or two from their real age or increasing their height by a couple of inches, through posting 10-year-old pictures or losing 50 lbs. overnight, to outright fraud, by failing to disclose that they were married. Because people were connected to their friends in online social networks, however, they would find it hard to post a 10-year-old picture or forget to mention a spouse, without eliciting comments from friends. Online social networks were also attractive to people who were currently in long-term relationships and could not easily join a dating site without jeopardizing their current relationship. Under the guise of interacting with their friends on an online social network, they could scan the market for new partners. Indeed, some industry experts estimated that the most traffic was generated by men in relationships looking at women they did not know. Whether such actions translated into offline liaisons was still unknown. Finally, online social networks held a significant advantage over dating sites for gay men and women. Due to inherent search difficulties in this market segment, and the importance of compatibility between one's partner and one's friends, online social networks provided a valuable search tool.

Despite these apparent advantages, online social networks presented a number of limitations compared with online personals sites. First, online social networks did not make it easy to send a clear signal about whether one was interested in forming a relationship. Even though online social networks allowed people to indicate whether they had joined only to interact with friends or to establish a new romantic relationship, at least 40% did not indicate their marital status at all, making it hard to figure out whom to approach. Second, with more people concerned about the privacy of their information, an increasing number of profiles were becoming private, with access available only to one's direct friends. This shift severely curtailed the usefulness of online social networks for meeting or finding out detailed information about people one did not know. Finally, online social networks were used less often than personals sites by people in their 40s and 50s, making them less useful for that segment of the population. Weighing the advantages and disadvantages, experts at Jupiter Research saw "no signs that the eruption of social networks has burned the paid online personals market."[42] Waldorf shared this view: "I don't believe that social networking will hit us in ways that everyone expects….I think it will have less to do with pricing and more to do with user expectations and the user experience. We have a new cohort of users from MySpace and Facebook coming every day. Will they find the guided process to be a breath of fresh air or too constraining?" Others within the industry concurred, believing that social networks played in a different space and that among all the people meeting online, only about 5% had met through a social network site.

### Direct Competitor Profiles

**Match** eHarmony considered Match its biggest competitor. Match was owned by InterActiveCorp (IAC) and contributed roughly 5% of IAC's revenue. IAC owned other online and offline businesses, including Home Shopping Network (HSN), Ticketmaster, Interval Timeshare, Lending Tree, Citysearch, ShoeBuy, ReserveAmerica, and Ask. In 2006, IAC boasted $5.9 billion in revenue, but it earned margins of only 4%. Its biggest division, the Home Shopping Network, made

up 50% of revenue and more than 85% of the total margin. In 2007, IAC lost $150 million on $6.3 billion in sales.

IAC acquired Match in 1999, four years after it had been founded by Gary Kremen and Peng Ong. Two years after the acquisition, the company boasted 382,000 paying customers, each of whom contributed roughly $10 in revenue and $2 in operating profit per month. By 2003, the company had signed extensive co-marketing agreements with AOL and MSN, which increased the number of paying customers to 930,000 and revenues to $185 million. Match also made significant investments in overseas expansion. In 2005, Match was present in 30 countries and boasted revenues of approximately $250 million on 1.2 million paying customers, with equal membership from men and women. Most of the membership growth had come from overseas, accounting for 30% of the firm's revenues. To boost US growth, Match invested in new features that made Match more similar to eHarmony. For example, it started to offer dating advice from a doctor, Dr. Phil McGraw, a popular daytime TV personality who had gained celebrity status following his appearances on *The Oprah Winfrey Show*. Match featured Dr. Phil prominently on its website, advertising his "Mind, Find, Bind" method for finding "enduring romance," while carefully avoiding references to marriage. The campaign did not boost the membership base, as the number of paying customers had increased only to 1.3 million despite the company's presence in 7 new countries. [43] Unsurprisingly, by early 2007 Dr. Phil had faded into the background, while Match focused on its campaigns of "It's OK to look" and "Find someone special in 6 months, or we'll give you the next 6 months free," designed to attract new members who would hopefully convert to paying customers.

However, despite the slow growth, margins were predicted to remain at 20%–22% on projected revenues of $349 million and an asset base of $333 million.[44] Maintaining margins would be a major achievement for the company, as it has just increased its advertising spend from $80 million to an estimated $145 million, matching eHarmony's advertising spend as a percentage of sales.[45] Among other online personals companies, only Match had any kind of TV presence to rival eHarmony. Given the fact that Match's website traffic in 2007 was only 20% of 2004 levels, many expected the company's advertising expenditures to increase in the future.

In early 2006, Match also launched a new brand, called Chemistry to challenge eHarmony in the serious relationship segment. "At some point Match realized that was a lot of money to be made in the serious relationship market. Those consumers are often much more willing to pay for memberships," recalled a Marketing team member. Chemistry shared many similarities with eHarmony, with a few important points of difference. Like eHarmony, Chemistry required that prospective members fill out a questionnaire before joining the site (see **Exhibit 12**). However, unlike eHarmony, Chemistry sold memberships to anyone who wished to sign-up, giving them a major and minor personality designation, from the menu of Explorer, Builder, Director, and Negotiator. Chemistry was also similar to eHarmony in that it delivered a pre-set number of matches to its members using an algorithm developed by another doctor—Dr. Helen Fisher, a visiting research professor of anthropology at Rutgers, and author of four major books and numerous publications. Unlike eHarmony, Chemistry claimed that its algorithm focused on interpersonal chemistry rather than psychosocial compatibility. To appraise such attraction, Chemistry asked its members to compare the length of their ring finger to the pointing finger of their right hand—a characteristic apparently determined by the amount of testosterone present in the womb during fetal development. This, in turn, was thought to determine certain personality characteristics. Chemistry applied for patents, claiming a system to determine early-stage attraction between prospective mates.

Finally, like eHarmony, Chemistry required that members go through a three step guided communication process. The first step required that both people rank criteria, such as neatness,

feelings on family life, sense of humor, and pets and send their answers to their match. The second step entailed sending two questions for the match to answer. Chemistry provided questions asking about proudest moments, greatest regrets, and lessons learned from previous relationships, but members could also write in their own questions. If the matched members decided to pursue their relationship further, they could proceed to email contact. Chemistry did not offer the equivalent of eHarmony's Fast Track. However, it did allow people to come back to the site and report how their offline dates went. This feedback was reportedly used to deliver better matches.

In its first year of operation, Chemistry spent $10 million on advertising and claimed 2 million registered users, even as some users reported a fairly low "successful first meeting" rate.[46] In 2007 Chemistry tried a "rejected by eHarmony" advertising campaign, with the tagline, "Who knows why eHarmony has rejected over a million people looking for love? But at Chemistry.com, you can come as you are."[47] eHarmony did not react to the advertisements.

**Yahoo! Personals** eHarmony also competed with Yahoo! Personals which attracted seven million unique visitors and 5% of all visits to dating sites. Personals was a business line of the Search division of Yahoo!, which also included Yellow Pages, Maps, and Shopping. In addition to Search, Yahoo! had the following divisions: Front Page, Mail and Messenger, Media, and Co-Branded Internet. In 2007, Yahoo! attracted a total of 107 million unique visitors, and earned $695 million on $6.9 billion of revenues, $12 billion of assets, and $9 billion of equity. Yahoo!'s overall profitability was at least 5 percentage points lower than it was in 2006, as operating expenses increased faster than revenues. Sales and marketing accounted for one-half of Yahoo's! overall operating expenses, while product development contributed one-quarter.

Yahoo! developed the Personals line internally in 1997 and relatively quickly rolled out the service to 15 different countries. The service was not differentiated from a typical paid dating website — users could browse a few personals for free, but to continue browsing or to communicate with others they had to buy a subscription. The service did not change much over the first 10 years of operation, except for the introduction of Yahoo! Personals Premier in November 2004. Launched in response to eHarmony's success, the new service used results from relationship and personality tests to search and match individuals. It cost $34.95 a month, $15 more than Yahoo!'s regular service. The service was not very successful, largely because Yahoo! did not put significant resources behind the business. The company did not advertise on television, but spent a total of $17 million in 2007 on Internet advertising through diverse Yahoo! properties and other search engines. Despite the lack of advertising support, Personals contributed approximately 2.5% to Yahoo!'s revenue, with estimated average revenue per customer of $16 per month.[48]

## Options

With the competitors in full attack mode, Waldorf knew that eHarmony needed to respond very soon. Together with Steiner, the COO, they continued to debate four different options.

The first option was targeted at defending eHarmony's position as the leading matchmaking company in the long term relationship segment of the market. Central to this option was a rapid increase in the number of paying members to deny Chemistry a chance to grow. Reflecting on this option, Waldorf commented "Two years ago, I believed that we had diminishing returns to subscribers in the network. I no longer believe this at all. There is still a massive user satisfaction effect to having more users." Few at the company believed that increased advertising alone would be sufficient to drive customer growth; some favored reduction of barriers to joining the site and encouraging the use of Fast Track communication. Selling memberships to anyone who wanted to

purchase a subscription could also be considered, but then the company could not be as confident in recommending matches that resulted in high levels of marital satisfaction.

The second option entailed broadening the customer base to include more casual daters. Waldorf believed that the company could only expand as far as medium-term relationships without seriously undermining its credibility with marriage-minded individuals. Although this option would expose eHarmony to more intense competition with Yahoo! Personals and Match, the introduction of the matching algorithm to this segment could provide a strong point of differentiation. Given that no more than 5% of the 94 million U.S. singles were paying members of an online personals site, Waldorf reasoned there were many people interested in medium-term relationships who could benefit from eHarmony's matching algorithm.

The third option called for growing a new business based on eHarmony's own research and development efforts – particularly the long term research project aimed at understanding successful life stage transitions. If chosen, this option would entail building a network of eHarmony-branded sites, each focused on key life stages such as weddings, pregnancy-fertility, parenting, and elder care. The sites would offer expert advice from eHarmony as well as support and community from other website users who are considering similar life decisions. The sites would be free to use with most of the revenue coming from advertising.

The final option called for rapid geographic expansion, starting with English speaking countries and then rolling out the services to European Union nations where online dating was already very popular. Match was present in many of these countries, suggesting that Chemistry could be rolled out globally, too. If eHarmony did not expand to new geographies soon, it could find that its target segments were already taken by competitors. However, some questioned whether U.S.-based research could credibly predict matching patterns in other countries.

Despite its profitability, resources were always scarce, preventing eHarmony from making sweeping changes. It was clear to Waldorf that the company could afford to invest in only one or two of the options he was considering. It was less clear, however, which of them would address the short-term competitive threats and position the company for long-term success.

**Exhibit 1**   Characteristics of People 15 Years and Over with Marital Event Within the Last Year: 2001

| Characteristic at time of interview | Men | | | | Women | | | |
|---|---|---|---|---|---|---|---|---|
| | Married | Separated | Divorced | Widowed | Married | Separated | Divorced | Widowed |
| **Total (in thousands)** | 2,476 | 1,031 | 1,038 | 484 | 2,442 | 1,201 | 1,181 | 1,222 |
| **Race and Ethnicity** | | | | | | | | |
| White Non-Hispanic (%) | 64 | 70 | 76 | 77 | 64 | 68 | 76 | 73 |
| Hispanic of any race (%) | 21 | 11 | 9 | 5 | 19 | 16 | 11 | 7 |
| African American (%) | 10 | 17 | 11 | 14 | 10 | 11 | 11 | 16 |
| Asian American and Pacific Islander (%) | 6 | 1 | 4 | 7 | 8 | 4 | 2 | 3 |
| **Age** | | | | | | | | |
| 15 to 24 years (%) | 23 | 9 | 4 | 1 | 33 | 19 | 9 | 2 |
| 25 to 34 years (%) | 45 | 32 | 28 | 1 | 42 | 29 | 35 | 2 |
| 35 to 44 years (%) | 18 | 36 | 40 | 3 | 14 | 32 | 36 | 4 |
| 45 to 54 years (%) | 7 | 17 | 20 | 8 | 9 | 13 | 14 | 12 |
| 55 to 64 years (%) | 4 | 5 | 6 | 14 | 2 | 6 | 5 | 20 |
| 65 years and over (%) | 2 | 3 | 2 | 74 | 1 | 1 | 1 | 62 |
| Median age (in years) | 30 | 37 | 39 | 74 | 28 | 36 | 37 | 71 |
| **Educational Attainment** | | | | | | | | |
| Less than high school (%) | 16 | 17 | 13 | 40 | 17 | 18 | 12 | 32 |
| High school graduate (%) | 31 | 36 | 30 | 28 | 25 | 34 | 29 | 32 |
| Some college (%) | 28 | 30 | 37 | 14 | 30 | 32 | 35 | 23 |
| Bachelor's degree or more (%) | 25 | 18 | 20 | 19 | 28 | 15 | 23 | 13 |
| **Employment Status[1]** | | | | | | | | |
| Worked full-time last month (%) | 82 | 73 | 83 | 12 | 55 | 57 | 66 | 20 |
| Worked part-time last month (%) | 8 | 8 | 4 | 9 | 12 | 15 | 13 | 8 |
| Did not work last month (%) | 10 | 19 | 14 | 80 | 33 | 29 | 21 | 72 |
| **Poverty Level** | | | | | | | | |
| Below poverty level (%) | 12 | 13 | 8 | 14 | 11 | 23 | 23 | 17 |
| 100-199 percent of poverty level (%) | 17 | 21 | 17 | 28 | 17 | 22 | 21 | 31 |
| 200+ percent of poverty level (%) | 71 | 64 | 73 | 58 | 71 | 51 | 52 | 51 |
| Income not reported (%) | 0 | 3 | 3 | 1 | 1 | 4 | 4 | 1 |

Source:   Rose M. Kreider, "Number, Timing, and Duration of Marriages and Divorces: 2001: Household Economic Studies," U.S. Census Bureau, February 2005, pp. 70–97, http://www.census.gov/prod/2005pubs/p70-97.pdf, accessed November 2007.

[1] Full-time includes those who usually work 35 or more hours per week; part-time includes those who usually work 1-34 hours per week; those who did not work last month include individuals who were unemployed or were not in the labor force.

**Exhibit 2**    Percent Married by Age, 1880–2000
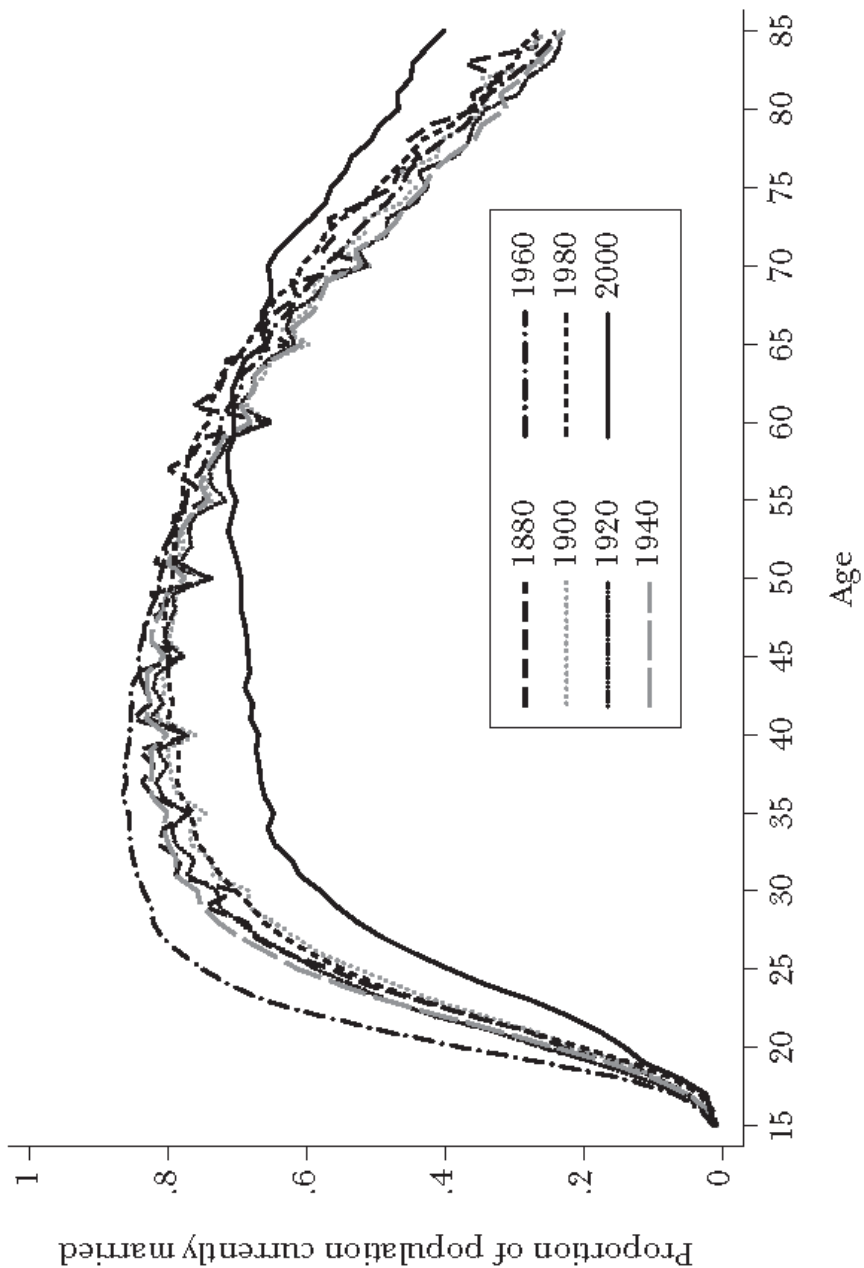


Source:   Betsey Stevenson and Justin Wolfers, "Marriage and Divorce: Changes and their Driving Forces," Journal of Economic Perspectives, 21, 2 (Spring 2007): 32, via ProQuest, ABI/Inform, www.proquest.com, accessed November 2007.

**Exhibit 3** Factors Affecting the Risk of Divorce

| Factors | Percent Decrease in Risk of Divorce |
|---|---|
| Annual income over $50,000 vs. under $25,000 | -30 |
| Having a baby seven months or more after marriage vs. before marriage | -24 |
| Marrying over 25 years of age vs. under 18 | -24 |
| Own family of origin intact vs. divorced parents | -14 |
| Religious affiliation vs. none | -14 |
| Some college vs. high-school dropout | -13 |

Source: David Popenoe, "The State of Our Unions: The Social Health of Marriage in America," published by The National Marriage Project, Rutgers State University of New Jersey, 2007, http://marriage.rutgers.edu/Publications/SOOU/TEXTSOOU2007.htm, accessed October 2007.

**Exhibit 4** Marriage Markets across the World

| | U.S. | Canada | U.K. | France | Germany | Italy | Sweden |
|---|---|---|---|---|---|---|---|
| **Marriage** | | | | | | | |
| Annual marriages per 1,000 unmarried adults | 18 | 13 | 11 | 9 | 12 | 11 | 9 |
| % of adult population currently married | 60 | 63 | 55 | 54 | 60 | 60 | 45 |
| % of adult population ever married | 77 | 76 | 72 | 70 | 76 | 73 | 64 |
| % of marriages where bride previously married | 28 | | 29 | 17 | 28 | 6 | 24 |
| % of marriages where bride was older than 34 | 31 | 28 | 30 | 28 | NA | 15 | 33 |
| **Divorce** | | | | | | | |
| Divorces per 1,000 married people / year | 9 | 5 | 7 | 5 | 6 | 1 | 7 |
| % of adult population currently divorced | 10 | 5 | 8 | 7 | 6 | 10 | 11 |
| **Cohabitation** | | | | | | | |
| % of nonmarital cohabitation | 5 | 11 | 12 | 11 | 7 | 4 | 12 |
| **Fertility** | | | | | | | |
| Annual births per thousand people | 14 | 10 | 12 | 13 | 9 | 10 | 11 |
| Mean age at childbirth | 27 | 29 | 29 | 30 | 29 | 30 | 30 |
| Non-marital births (% of all births) | 35 | 36 | 42 | 45 | 28 | 15 | 55 |
| **Attitudes: % Agree that…** | | | | | | | |
| Marriage is an out-dated institution | 10 | 22 | 26 | 36 | 18 | 17 | 20 |
| People who want children ought to get married | 65 | 50 | 52 | 41 | 53 | 61 | 31 |
| Divorce is the best solution when a couple can't seem to work out their problems (%) | 43 | 78 | 61 | 61 | 75 | 65 | 55 |

Source: Adapted from Betsey Stevenson and Justin Wolfers, "Marriage and Divorce: Changes and their Driving Forces," Journal of Economic Perspectives," 21, 2 (Spring 2007): 40, via ProQuest, accessed November 2007.

**Exhibit 5**    Percent Reaching Stated Anniversary, by Marriage Cohort and Gender: 2001

| Sex and year of marriage | Number of marriages (In thousands) | Anniversary[1] | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 5th | 10th | 15th | 20th | 25th | 30th | 35th | 40th |
| **First Marriages** | | | | | | | | | |
| **Men** | | | | | | | | | |
| 1955 to 1959 | 4,100 | 96 | 90 | 82 | 76 | 72 | 69 | 66 | 64 |
| 1960 to 1964 | 5,033 | 94 | 82 | 71 | 66 | 62 | 60 | 58 | |
| 1965 to 1969 | 6,357 | 93 | 78 | 68 | 62 | 58 | 55 | | |
| 1970 to 1974 | 7,436 | 90 | 73 | 61 | 56 | 53 | | | |
| 1975 to 1979 | 7,109 | 89 | 72 | 63 | 58 | | | | |
| 1980 to 1984 | 7,606 | 90 | 75 | 66 | | | | | |
| 1985 to 1989 | 8,048 | 88 | 75 | | | | | | |
| 1990 to 1994 | 7,718 | 90 | | | | | | | |
| **Women** | | | | | | | | | |
| 1955 to 1959 | 5,162 | 94 | 87 | 79 | 73 | 67 | 64 | 59 | 54 |
| 1960 to 1964 | 5,714 | 94 | 84 | 73 | 67 | 61 | 57 | 53 | |
| 1965 to 1969 | 7,138 | 91 | 78 | 66 | 59 | 56 | 52 | | |
| 1970 to 1974 | 8,176 | 88 | 70 | 60 | 54 | 49 | | | |
| 1975 to 1979 | 7,852 | 85 | 68 | 59 | 53 | | | | |
| 1980 to 1984 | 8,448 | 87 | 72 | 64 | | | | | |
| 1985 to 1989 | 8,299 | 87 | 75 | | | | | | |
| 1990 to 1994 | 7,967 | 87 | | | | | | | |
| **Second Marriages** | | | | | | | | | |
| **Men** | | | | | | | | | |
| 1975 to 1979 | 1,985 | 91 | 81 | 58 | 49 | | | | |
| 1980 to 1984 | 2,544 | 91 | 72 | 55 | | | | | |
| 1985 to 1989 | 2,881 | 90 | 72 | | | | | | |
| 1990 to 1994 | 2,834 | 89 | | | | | | | |
| **Women** | | | | | | | | | |
| 1975 to 1979 | 2,187 | 86 | 76 | 56 | 47 | | | | |
| 1980 to 1984 | 2,703 | 89 | 71 | 55 | | | | | |
| 1985 to 1989 | 3,008 | 87 | 68 | | | | | | |
| 1990 to 1994 | 3,126 | 87 | | | | | | | |

Source:  Rose M. Kreider, "Number, Timing, and Duration of Marriages and Divorces: 2001: Household Economic Studies," U.S. Census Bureau, February 2005, pp. 70–97, http://www.census.gov/prod/2005pubs/p70-97.pdf, accessed November 2007.

[1] People reaching stated anniversary for the specified marital order.

Note: Limited to spouses surviving the interview date.

**Exhibit 6**    Percent of web users within a demographic group who have gone to a personals website

| Category | Percentage | Category | Percentage | Category | Percentage |
|---|---|---|---|---|---|
| **All Internet Users** | 11[a] | | | | |
| | | | | | |
| **Gender** | | **Home Internet Speed** | | | |
| Men | 12 | Broadband | 12 | | |
| Women | 9 | Dialup | 9 | | |
| | | | | | |
| **Race/Ethnicity** | | **Location** | | | |
| White | 10 | Urban | 13 | | |
| Black | 13 | Suburban | 10 | | |
| Hispanic | 14 | Rural | 9 | | |
| | | | | | |
| **Age** | | **Household Income** | | **Education Level** | |
| 18-29 | 18 | Less than $30,000 | 14 | Less than High School | 14 |
| 30-49 | 11 | $30,000 to $49,999 | 13 | High School Grad | 10 |
| 50-64 | 6 | $50,000 to $74,999 | 10 | Some College | 11 |
| 65+ | 3 | $75,000+ | 9 | College+ | 10 |

Source:  Adapted from Mary Madden and Amanda Lenhart, "Online Dating: Americans who are seeking romance use the Internet to help them in their search, but there is still widespread public concern about the safety of online dating," Pew Internet & American Life Project, March 5, 2006, p. 10.

**Exhibit 7**    How Internet Users in Committed Relationships Met Their Partners

| Mode of Meeting | Percent | Mode of Meeting | Percent |
|---|---|---|---|
| Met at work or school | 38 | Met at church | 2 |
| Met through family or friends | 34 | Met by chance, such as on the street | 2 |
| Met at a club, bar, café, or social gathering | 13 | Met at a recreational facility like a gym | 1 |
| Met through the Internet | 4 | Other | 6 |

Source:  Adapted from Mary Madden and Amanda Lenhart, "Online Dating: Americans who are seeking romance use the Internet to help them in their search, but there is still widespread public concern about the safety of online dating," Pew Internet & American Life Project, March 5, 2006, p. 6.

**Exhibit 8**  eHarmony Personality Profile

| | No of questions | Theme | Sample Questions |
|---|---|---|---|
| Section 1 | 26 | My general Information | What is your height? What ethnicity are you? Which ethnicities are you willing to be matched with? How many times have you been married? How many children do you have who are 18 years old or younger and living full time in your home? |
| Section 2 | 6 | My personal beliefs | Which religion do you affiliate yourself with? |
| Section 3 | 19 | About me | On the scale of 1 to 7 rate yourself on items such as "I do things according to a plan" and "I often leave a mess in my room." |
| Section 4 | 58 | My self-descriptions | On the scale of 1 to 7 rate yourself on self descriptions such as "agreeable," "spiritual," "cold," "quarrelsome," "attractive," and "liberal." |
| Section 5 | 36 | My personal characteristics | On the scale of 1 to 7 rate yourself on the following statements "I enjoy mingling with people on social occasions" or "I ask questions in search of information." |
| Section 6 | 20 | About my feelings | On the scale of 1 to 7 rate how often you felt the following way during the past month. Feelings include "Happy", "Fearful about future", "Misunderstood" and "Fortunate." |
| Section 7 | 30 | Important qualities in a partner | On the scale of 1 to 7 rate how important the following characteristics are in your potential partner. Characteristics include "my partner's energy level" and "my partner's ability to communicate." This section also asks for three things for which the applicant is most grateful. |
| Section 8 | 19 | My personality | True or False? "If a store-clerk gave me too much change, I might keep it without telling them" or "I sometimes wish that certain other people would fail." |
| Section 9 | 30 | My personal interests | On the scale of 1 to 7 rate how interested you are in the following activities. Choices include "board games," "church involvement," "movies," and "shopping." These choices were followed by open ended questions such as "What are you most passionate about?" and "Please describe two or three things that you most enjoy doing with your leisure time." |
| Section 10 | 1 | My living skills | Choose three living skills that you do best out of a list of 34. Choices include "Using humor to make friends laugh," "Helping those who are less fortunate or in need," and "Car maintenance and repair" |
| Section 11 | 13 | My matching preferences | How much do you smoke? Would you accept being matched to a smoker? How much do you drink? Indicate the most you would accept your ideal match to drink? How far are you willing to relocate if you met the right person? |
| Picture Upload | | Optional | |

Source:  Compiled by the case writers from http://www.eharmony.com/.

**Exhibit 9**   Subscription List Prices in 2002 (monthly equivalents in 2008 dollars)

| Membership Length | eHarmony | Match | Yahoo! Personals |
|---|---|---|---|
| 1 month | 59.86 | 23.91 | 23.91 |
| 3 months | 39.92 | 15.96 | 15.96 |
| 6 months | 31.95 | 11.97 | 8.98 |
| 12 months | 24.95 | 11.97 | 8.98 |

Source:   Compiled from http://www.onlinedatingmagazine.com/datingservicereviews/matchcomreview.html, accessed
February 2008. CPI was used to convert 2002 to 2008 dollars (http://www.greatdepressionbook.com/
research/data/us/calc/).

**Exhibit 10**   Subscription List Prices in 2008

| Membership Length | eHarmony | Chemistry | Match | Yahoo! Personals |
|---|---|---|---|---|
| 1 month | 59.95 | 49.95 | 39.99 | 29.99 |
| 3 months | 39.95 | 33.32 | 22.99 | 19.99 |
| 6 months | 29.95 | 26.65 | 19.99 | 15.99 |
| 12 months | 19.95 | 26.65 | 19.99 | 13.99 |

Source:   Compiled from company websites,
https://www.eharmony.com/singles/servlet/subscription?PURCHASE_REASON=10,
http://www.match.com/subscribe/subscribe.aspx?lid=1, http://personals.yahoo.com/us/reg/billingsplash,
https://www.chemistry.com/subscribe/subscribe.asp, accessed February 2008.

**Exhibit 11**   Monthly List Prices in 2008 dollars (based on 12-month commitment)

| Name | Service | Price |
|---|---|---|
| **Offline subscriptions** | | |
| Boston Sports Club | Gym access in Boston | 74.99 |
| AT&T | 900 cell phone minutes | 59.99 |
| Verizon | 3.0 Mbps Internet Access | 29.99 |
| **One-time online payments** | | |
| Carfax | Second-hand car history | 24.99 |
| Equifax | Personal credit rating | 12.95 |
| **Online subscriptions** | | |
| eHarmony | On-line dating | 19.95 |
| Ancestry | Search for ancestors | 12.95 |
| Gmail | 40 GB extra storage space | 6.25 |

Source:   Compiled from https://www.google.com/accounts/PurchaseStorage,http://www.ancestry.com/subscribe/
signup.aspx, https://www.eharmony.com/singles/servlet/subscription, http://www22.verizon.com/
ForHomeDSL/Channels/DSL/olo_landing_new.asp, http://www. mysportsclubs.com/member/,
http://www.equifax.com/home/ https://secure.carfax.com/cfm/CCard_Options.cfm.

**Exhibit 12**   Chemistry Personality Test

| | No of questions | Theme | Sample Questions |
|---|---|---|---|
| Section 1 | 1 | Right hand image | Which of the following four pictures most closely resembles your right hand? |
| Section 2 | 4 | Interpersonal | What kind of relationship are you looking for? Is your sock drawer ready for public inspection? |
| Section 3 | 8* | Self perception | Do you enjoy the challenge of managing people? Do you have children? How often do you drink? |
| Section 4 | 19 | Communication dynamics | How important is it for you to share very personal matters with your partner? When you see two people madly kissing in public, would you rather not look? Do you get restless if you have to stay home for any length of time? |
| Section 5 | 50* | Personal traits and preferences | Would you buy a used car from this person (pictures of four people appear)? If you're stuck in a boring meeting, or waiting in the airport, what would your doodles typically look like (pictures of 8 doodles appear)? On the scale of 1 to 4, rate the following statements: "I consider every option thoroughly before making a plan", "I would rather have loyal friends than interesting friends", "Sex is an essential part of a successful relationship", "I am more analytical and logical than most people". |
| Section 6 | 2 | Aspects of identity | On the scale of 1 to 4, rate the following statement: "There is something on the other side of the wall" (picture of a young man looking over a concrete wall is displayed). |
| Section 7 | 14 | About me | How tall are you? What color are your eyes? What is the highest level of education you have completed? What is your relationship history? Where would you most like to live? Tell us about yourself and who you're looking for (2000 characters essay). |
| Section 8 | 12* | About my match | Is it OK if your future partner drinks? What body types do you find attractive? Which ethnic backgrounds are you willing to consider? |
| Picture Upload | | Optional | |

Source:   Compiled by the case writers from http://www.chemistry.com/lovemap/lovemap.aspx?rm=1.

Note:   * denotes one of the questions entails a visual game

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