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Updating Dating

In April 2018, Harvard Business School (HBS) Class of 2019 MBA candidates Melanie Moreau and Jonathan Li were camped out at Starbucks. They were poring over the designs of a number of dating sites and apps that they had opened on their laptops and smartphones. The classmates were looking for commonalities and differences—but more than anything else, they were looking for an idea.

Before HBS, Moreau had worked in private equity at Edmond de Rothschild, Bain Capital, and Harbour Group. Li, by contrast, had mostly worked in education and social enterprise: he started off at Teach for America after college, then moved to China on a Fulbright Fellowship and stayed there to work at a Chinese foundation serving social entrepreneurs. Despite their dissimilar backgrounds, the two became fast friends due to their complementary skillsets, as well as shared interests in rock climbing and truly terrible 80s karaoke. (See **Exhibits 1a** and **1b** for “Class Cards.”)

Soon after enrolling at HBS, Li and Moreau—neither of whom had significant startup experience—were surprised and excited to discover latent interests in entrepreneurship. The first-year required course “The Entrepreneurial Manager” catalyzed their interests and convinced them to try launching a company over the summer.

Moreau and Li had decided on online dating as a potential target. Although the market was mature and crowded with services, it regularly spawned successful new ventures—amidst a flurry of failed startups. Working on a dating startup also appealed to Li and Moreau because each had found existing services lacking. The classmates had tried a number of dating services both while working and while at HBS. Li had trouble attracting dating partners, especially ones who seemed ready to settle down. Moreau, meanwhile, was flooded with suitors—but most of them vanished when they learned that rather than go to dance clubs, she would prefer to discuss Oulipo literature, which celebrated constrained writing techniques (e.g., an entire novel avoiding use of the letter “e”).

Moreau said, “I’ve built a spreadsheet summarizing key features of the five services we’ve spent the most time studying (see **Exhibit 2**). Have I left out anything important? And how can we mix and match design ideas to create a service that will fill a strong unmet need?”

HBS Professors Thomas R. Eisenmann and Scott Duke Kominers and independent researcher Alan Lam (CMSA Economic Design Fellow, Harvard College 2019) prepared this case. This case was developed from published sources. Funding for the development of this case was provided by Harvard Business School and not by the company. Melanie Moreau and Jonathan Li are fictional. HBS cases are developed solely as the basis for class discussion. Cases are not intended to serve as endorsements, sources of primary data, or illustrations of effective or ineffective management.

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Coffee Meets Bagel

In 2015, viewers of the television program *Shark Tank*—on which entrepreneurs pitched concepts to angel investors—were shocked when sisters Arum, Dawoon, and Soo Kang said “no” after billionaire Mark Cuban asked whether they would sell their mobile dating application, Coffee Meets Bagel (CMB), for \$30 million.¹ The Kang sisters founded CMB in 2011 after observing that online dating sites had difficulty recruiting and retaining female users. They theorized that high volumes of unwanted connections and messages were a nuisance for users of less relationship-oriented dating services—especially women. In response, the sisters devised a set of interaction rules they hoped would enable more meaningful exchanges.²

Users registered for CMB by connecting their Facebook accounts. CMB authenticated and loaded relevant Facebook data to build each user’s profile; users could augment that information with short descriptions of their interests and personalities, as well as their preferences regarding romantic partners. Relying on Facebook profile information reduced the extent to which users could falsify their identities, and also allowed CMB to suggest potential matches who had Facebook friends in common—which improved response rates among female users (but not males).

Every day at noon, users received a list of algorithmically-determined suggested matches, called “bagels.” Heterosexual males were shown up to twenty-one female bagels per day; heterosexual females were shown up to six male bagels—all of whom had already indicated that they liked the female user. LGBTQ users were shown the same number of bagels as the gender group with which they identified (i.e., 21 for males, 6 for females); they received a mix of bagels who had already liked them and who hadn’t yet seen their profile.³ Users could view their daily bagels’ photos, basic profile information, and mutual Facebook friends. As with flash sale shoppers in online retailing, CMB users were encouraged to act quickly: they had to decide whether to “like” or “pass” on their daily bagels within 24 hours. Pairs who liked each other were connected and could send each other messages through CMB’s internal chat system. CMB encouraged connected users to interact (and perhaps exchange contact information) by making every chat link expire after seven days.

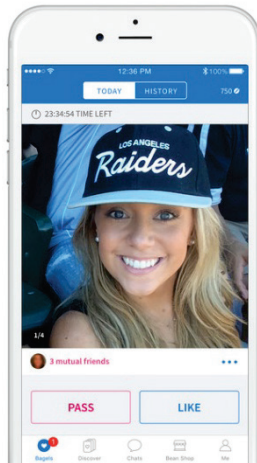
Users could spend virtual currency called “beans” to unlock additional features. For example, they could spend beans to “TAKE” a bagel from their “Discover” section, which displayed a set of bagels whose predicted match likelihood was weaker than that for daily bagels. In the days following a user choosing to TAKE, that user’s profile would appear in the targeted bagel’s Discover section, with an indication that the user liked the target. Users also could use beans to reopen expired chat links and to send virtual “Woos” to special bagels. Users could purchase beans from CMB, or earn them by interacting with the app daily, voting on user photos, or referring bagels to friends.

After the Kang sisters appeared on *Shark Tank*, CMB closed a \$7.8 million Series A round. As the app’s user base grew, reviews on iTunes and Google Play started to dip, partially due to perceptions that match quality was deteriorating. CMB overhauled its matching approach in July 2016,⁴ then in March 2017 introduced a \$35 monthly subscription that provided statistics on bagels’ behavior (e.g., how frequently they chatted with connections), receipts that showed whether chat messages had been read, and 6,000 additional beans per month (which would cost \$50 if purchased separately).

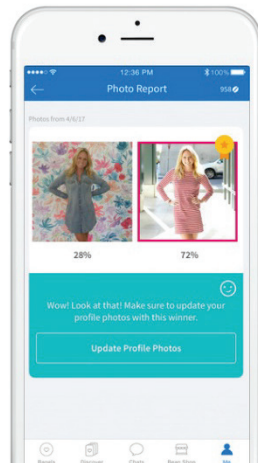
For the first half of 2016, a SurveyMonkey Intelligence report estimated CMB’s market share among U.S. users of the top 20 mobile dating apps to be 2.4%; CMB ranked 10th; the share leaders were Tinder (25.6%), PlentyOfFish (19.4%), and OKCupid (10.0%).⁵ CMB’s percentage of female users—57.3%—ranked second after Christian Mingle’s 58.6%; Tinder’s user base was 43.3% female.

Figure 1 Coffee Meets Bagel Screenshots

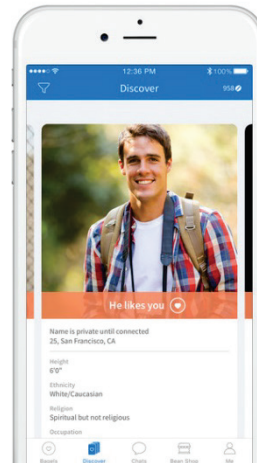
Guys make the first move
Ladies have the final choice



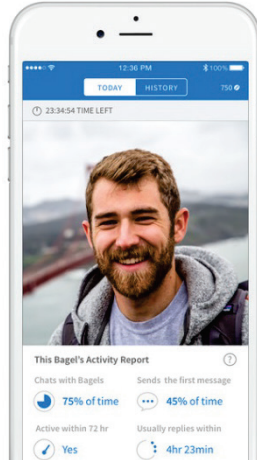
Plus, get feedback on your profile photos from the CMB community



Women choose from men who have already liked them



Learn more about your Bagel's chat activity!



Use exclusive CMB stickers in your chats!



Source: Apple iTunes App Store.

OkCupid

In 2003, four Harvard College math major alumni—Sam Yagan, Chris Coyne, Christian Rudder and Max Krohn—teamed up to launch OkCupid (OKC), a free online dating website and mobile application that monetized through advertising, rather than the subscription fees relied upon by industry giants such as eHarmony and Match. To sign up for OKC, users could either log in through their Facebook accounts or manually input personal details. Next, they were prompted to answer pairs of multiple choice questions regarding their preferences and those of their ideal matches. The questions spanned a range of topics, including politics, sex, lifestyles, and religion. Users could skip some questions and could mark others as important. They could continue to build their profiles by answering additional questions at any time.

The founders devised an algorithm that calculated a pair-specific compatibility score (“Match %”) based on the fraction of questions that the pair agreed upon, and the importance each assigned to various questions. The site suggested potential matches using this compatibility score and a second algorithm that rated users’ attractiveness based on views and responses they had received. Users were shown previews of potentially compatible users with comparable attractiveness; these previews displayed only username, age, city, Match %, and a single photo. Users could “QuickMatch” a preview, “liking” it by swiping right (as on the popular dating app Tinder) without viewing the target’s entire profile, or they could click through to see more photos and read the target’s response to any question that they themselves had answered.^a In addition to liking suggested matches, users could search all profiles, filtering them based on Match %, location, background, availability, personality, and so forth. Users who liked each other were connected and invited to chat, but any user could message any other user for free at any time. The company reported that 32% of first messages received a reply.⁶

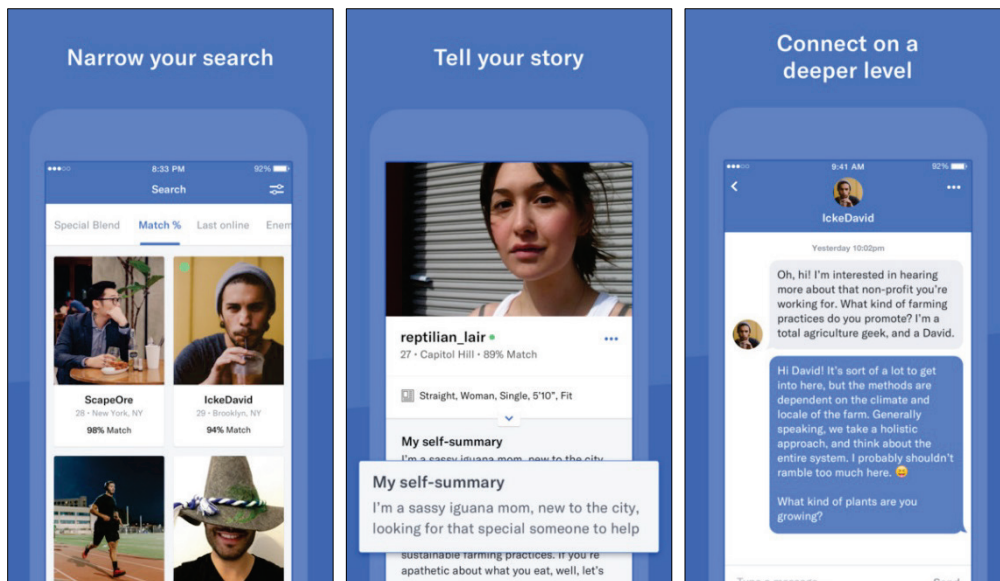
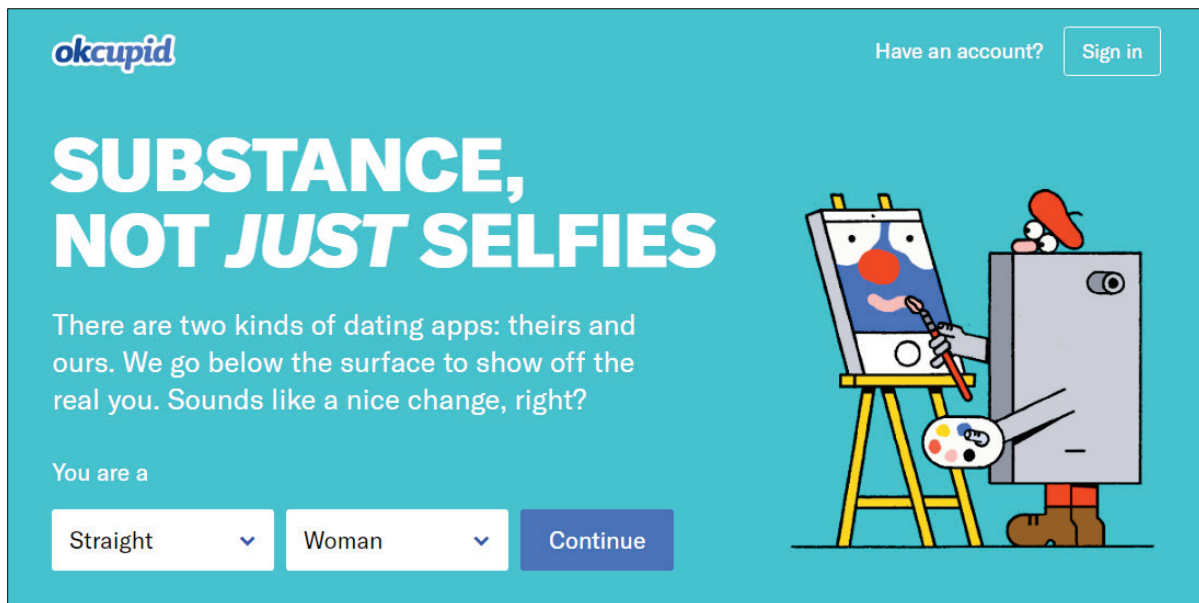
In 2009, OKC had introduced subscriptions under the “A-list” brand (e.g., \$14.95 for a 3-month package), which eliminated ads and offered premium features such as sorting on attractiveness score, the ability to block messages based on selected criteria, receipts indicating when outgoing messages had been read, and the ability to store up to 5,000 messages (versus the free service’s 300). For additional fees, users could boost their profile ranking, get message priority, and see other users’ responses to questions without answering those questions first.

In 2011, borrowing some user experience elements from the gay dating app Grindr, OKC introduced a companion mobile application, OKC Locals, which allowed users to connect with others nearby by combining “a Twitter-like broadcast feature, Foursquare’s location database, and insights on OKC’s 8-million person membership.”⁷

Also in 2011, OKC, which had raised \$6 million in venture capital, was acquired for \$50 million by IAC’s Match unit, which owned a stable of other online dating services and subsequently acquired Tinder. OKC continued to be popular with millennials—especially hipsters and nerds—and experienced rapid user and revenue growth.⁸ The company reported over one million app installs per week in mid-2017. However, as OKC’s user base expanded, some female users reported excessive volumes of unwanted messages; OKC’s blog noted that the most attractive third of its female users received two-thirds of messages directed at females.⁹ Inactive profiles posed another problem as the service matured: a premium user, irate that he was paying for matches to such profiles, launched a class action lawsuit in 2017.

^a In early 2017, QuickMatch was rebranded as “DoubleTake” and previews were revamped to include multiple photos and additional descriptive details.

Figure 2 OkCupid Landing Page and App Screenshots



Source: OKCupid.com and Apple iTunes App Store.

Jiayuan

In 2003, Haiyan (“Rose”) Gong was a 27-year-old student studying at Fudan University in Shanghai when she first decided to sign up for online dating sites. Gong was still single and, like many busy students at Chinese universities, had little time to socialize or seek a romantic partner. After experimenting with Chinese dating sites, she felt that many of them were hard to navigate, were ineffective due to their high fraction of fraudulent profiles, contained too many advertisements, or charged unreasonably high fees.¹⁰

In response, Gong launched Jiayuan, which aimed to help Chinese users find partners in a safe, trustworthy online environment. Users signed up by providing basic personal information, including age, height, location, and a mobile phone number – which was immediately verified by sending the new user a code. The registration process also required new users to submit a close-up headshot that followed site guidelines.

Once onboard, users could search through Jiayuan’s database of singles. Because of China’s high population density, searches using even extremely precise filtering criteria could yield large pools of potential matches living nearby.¹¹

To boost their profiles’ visibility, users needed to increase their profiles’ “completeness” by entering information regarding their occupations, education, habits, interests, preferences, and – most importantly – expectations. Expectations varied in specificity from nebulous to exact (e.g., “Seeking a wife, 1.62 metres tall, above-average looks, graduate degree”).¹² Serious users could earn bonuses by submitting copies of pay stubs, provincial IDs, and housing certifications; an internal team reviewed those documents and awarded both virtual currency and stars indicating profile trustworthiness for valid submissions.

Jiayuan differentiated itself from other Chinese dating sites with its monetization strategy. Instead of selling subscriptions, Jiayuan charged users for each message sent or received.¹³ For 4 yuan (approximately 60 cents), payable through mobile payment platforms like WeChat and Alipay, any user could send as much as a paragraph of text to any other. Users could also signal their interest through pay-per-use methods such as sending “waves” and virtual gifts.

Jiayuan grew rapidly and in 2011 was listed on the NASDAQ under the stock symbol “DATE.” By 2015 the site had 160 million registered user accounts, with tens of thousands of new users signing up daily. However, Jiayuan’s success attracted competitors, and an underwhelming mobile initiative put its market share at risk.

Figure 3 Jiayuan Landing Page and Example Profile Page



Source: Jiayuan.com (redactions and translations by casewriters).

Dating Ring

In March 2014, Emma Tessler and Lauren Kay pitched their startup Dating Ring to a room full of investors at Y Combinator's Demo Day. Unlike most online dating services, Dating Ring relied on human matchmakers to connect potential romantic partners.

Dating Ring users completed an online questionnaire, submitted up to 20 photos, and provided Dating Ring with access to their Facebook profiles. Each user also conducted an in-person or phone consultation with one of Dating Ring's nine matchmakers. After the initial conversation, the matchmaker would choose the user's best photos and complete the user's profile.¹⁴ The initial consultation served as a starting point for an extended relationship between users and their matchmakers—and also helped screen for potentially troublesome users.

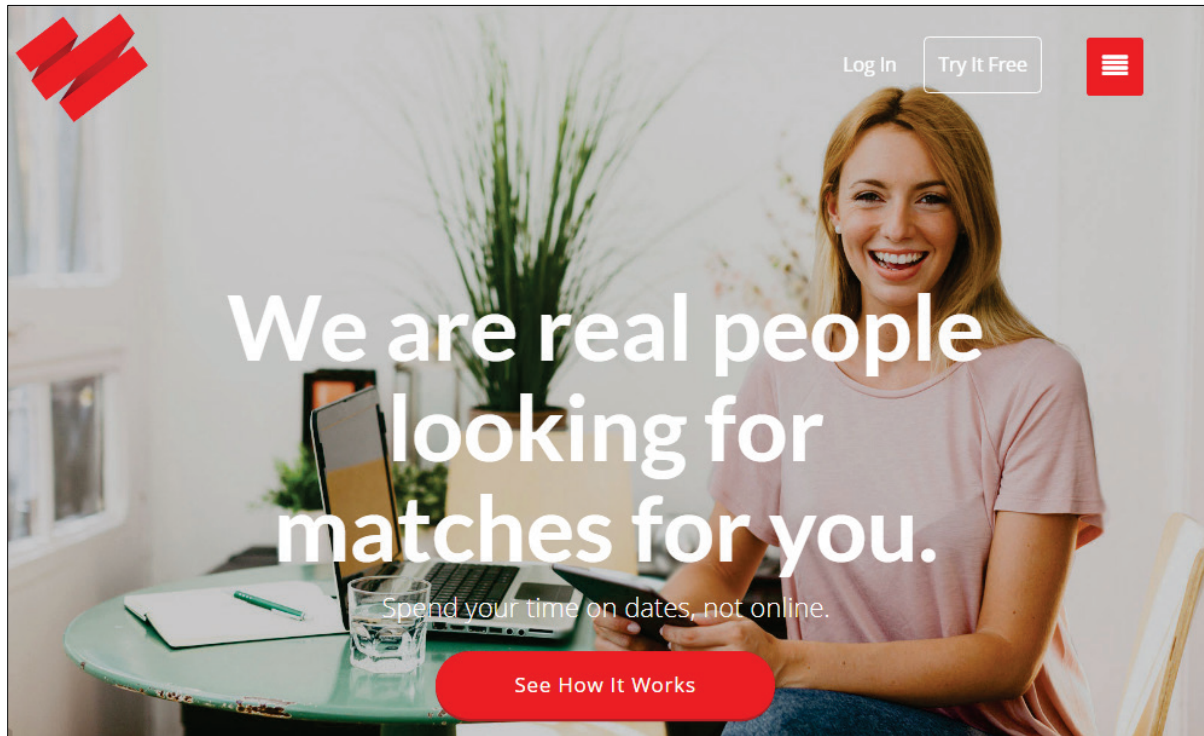
Dating Ring provided its experience at a cost that was comparable to that of other dating websites. The company offered three subscription models: two matches per month for \$40, one match per week for \$80, and a premium membership (with price determined after consultation), which positioned the matchmaker as a personal assistant who arranged every aspect of the dating process. Users also could sign up for free membership; such users could be matched to paying users, but would not be sent suggested matches.

Relying on human matchmakers helped avoid several problems common on other dating sites, such as time wasted on searching and messaging—as well as unwanted messages from excessively aggressive users.

To select matches, Dating Ring used a simple algorithm to filter users based on shared preferences and interests. Matchmakers then personally screened the results for the best matches and emailed each user their match's photo, first name, and basic profile information, along with a personalized explanation of the rationale for the match. Users were provided a private text line to signal whether they wished to meet their suggested matches. If matched users signaled positively, they could message each other using the text line, without sharing their personal phone numbers. After each date, users were encouraged to report back to their designated matchmakers, who used the feedback to improve future recommendations.

Dating Ring initially focused on customers in their early 20s, but by 2017 it served a broader range of ages, with the largest concentration around age 35. Most users were busy professionals, with females outnumbering males. After a slow start with fundraising and some pivots (e.g., away from arranging group dates), by mid-2017 the service operated in New York, San Francisco, Los Angeles, Boston, and Washington DC. Tessler remarked, "We had been focusing on scaling and as a result, ended up losing a lot of the human element that made us special and unique, that was really our main value to users. And so we decided to accept that we were a lifestyle company."¹⁵

Figure 4 Dating Ring Landing Page



Source: DatingRing.com.

HurryDate

After graduating from the University of Florida, Ken Deckinger and Adele Testani both moved to New York City and found themselves constantly throwing parties and setting up friends on dates.¹⁶ Recognizing their prowess as matchmakers, in May 2001, Deckinger and Testani launched HurryDate, which hosted speed dating events.

In speed dating, singles met each other in short, structured interactions. Conversations were forcibly brief, but singles who liked each other were connected afterwards. HurryDate's founders did not pioneer the concept—it was introduced by a Los Angeles rabbi and his wife in 1998.¹⁷ Nevertheless, Deckinger and Testani reasoned that if they introduced fresh ideas and built a recognizable brand, then they could become the dominant provider of speed dating services.

HurryDate events, called “parties,” were designed to be frictionless and enjoyable. Each participant met another for four minutes, a whistle was blown, and then everyone rotated seats and met a new partner. This process was repeated fifteen to twenty-five times over the course of the evening. Immediately after each four-minute meeting, HurryDate participants marked ‘yes’ or ‘no’ next to their partner’s identification number. Pairs that indicated mutual interest would receive each others’ contact information via email after the event.

For singles, speed dating removed many of the difficulties and risks experienced when trying to meet someone at a bar or club. Venues were quiet enough to talk and everyone was receptive to being approached. At typical speed dating events, about 10% to 20% of interactions resulted in successful matches, compared to a 1% average success rate for suggested matches on online dating sites.¹⁸ In the words of a journalist, “Using a dating app is an inherently shallow process, like shopping through a catalog of faces. Speed dating is also shallow, but it’s more like going into the actual store. It allows you to look at all sides of the product before committing to it.”¹⁹

HurryDate initially targeted 25-to-35-year-olds, but soon broadened to include participants aged 21 to 45. Within four months, the startup operated in ten cities and continued to expand rapidly. The founders developed an online event management system and outsourced local operations and selection of venue—usually a restaurant or bar—to carefully selected and trained hosts who were hired as independent contractors and paid 15% of event gross profit.²⁰ The company offered themed parties for different age groups, sexual orientations, and affinity groups based around religion, political affiliation, and other shared interests. Participants paid \$30 to \$40 per person to attend.

As events grew in number, HurryDate solidified its position as one of the leading speed dating companies in the United States. Brand recognition, media exposure, word of mouth referrals (which accounted for 50% of new customers), and a high customer satisfaction rating—15% of participants were repeat customers—helped the company grow to over 50 cities by 2005. That year, HurryDate earned \$1.7 million in revenue, had eight employees at headquarters, and contracted with 80 hosts. But just as HurryDate turned its first profit—\$358,000 for 2005—and was contemplating expanding its nascent online dating website, the emergence of MySpace and Facebook brought new competition to the dating market.

Figure 5 HurryDate Landing Page and Example Banner Advertisement

HurryDate **The HurryDate Guarantee**
Meet at least 8 people in one night or your next party is FREE! [Learn more](#)

Member Login: **LOGIN** »
Not a member? [Join now](#) and create a free profile.

Check out a HurryDate speed dating party, and you'll go on tons of fast, fun dates in one night out. Mark your SCOREcard if you want to see each person again, and we'll match you up in a hurry! You'll get in touch via our secure email system, and then it's up to you to decide if you want to go on a "real" date.

Find a Speed Dating Party

I am a:

I live in:

SEARCH

SAVE BIG
GET 25% OFF A PARTY NOW!

Upcoming Parties

Tuesday, October 09	Jewish Singles: Ages 23-33	New York City
Wednesday, October 10	Jewish Singles: Ages 23-33	Boston
Wednesday, October 10	Men and Women Ages 40-55	San Francisco
Wednesday, October 10	Jewish Singles: Ages 40-55	Philadelphia
Wednesday, October 10	Jewish Singles: Ages 55+	New York City

What members are saying:

Great time, loved it met lots of cool people keep up the good work.
— *Dave in Seattle*

Find Someone Online

I am a:

Between ages: Near my city: **SEARCH**

Featured HurryDatars

 BlowersDaughter Boston Send a drink >>	 B1579 New York City Send a drink >>	 Sakokenio New York City Send a drink >>	 Minnesota1 Chicago Send a drink >>
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HurryDate speed dating is a great way to meet lots of new people in a quick, fun, no-pressure environment. You won't waste your time with people you aren't interested in and will have the opportunity to connect with those who you are after the event. We hold our signature speed dating parties in cities all across the US each week, so there's probably a party for you coming up soon! What are you waiting for? [Sign up today!](#)

You never get a second chance to make a first impression? Here you get 10 to 15.

Try a **SPEED DATING PARTY!**

GO FOR IT! >>

HurryDate

Sources: HurryDate.com and Martha's Singles Blog (<http://blog.marthasingles.com/2013/07/>).

Exhibit 1a MBA "Class Card" for Melanie Moreau

MELANIE MOREAU**Section I** MBA 2019**Education**

University	Degree / Major(s)	Grad Date
Stanford University	BA (Statistics)	6/13

Additional Information

Birthday:	2/6
Home Region:	Paris, France
Country of Citizenship:	France
Marital Status:	Single
Languages:	English - fluent French - fluent German - conversant
Professional Interests:	Entrepreneurship: Founding a Company, Entrepreneurship: Working for a Start-Up, Finance: Investment Banking, Finance: Leveraged Buyout, Finance: Private Equity, Services: Consulting, Technology: Computers/Software, Technology: General High
Interests:	Finance, Technology, Venture Capital, Entrepreneurship, Rock Climbing, Swimming, Travelling
HBS Activities:	Bitcoin Club, Venture Capital & Private Equity Club, European Club
Start-up Experience:	Yes

Work Experience

Harbour Group Private Equity	St Louis, MO	8/16-8/17
<i>Senior Associate</i> (Finance: Private Equity)		
Bain Capital Private Equity	London, UK	8/15-8/16
<i>Associate</i> (Finance: Private Equity)		
Edmond de Rothschild Private Equity	Paris, France	8/13-7/15
<i>Analyst</i> (Finance: Private Equity)		
Quora Computers/Software	Menlo Park, CA	6/11-8/11
<i>Analytics Intern</i> (Entrepreneurship: Working for a Start-Up)		

Source: Casewriter.

Exhibit 1b MBA "Class Card" for Jonathan Li

JONATHAN LI

Section I MBA 2019

Education

University	Degree / Major(s)	Grad Date
Williams College	BA (History)	6/11

Additional Information

Birthday:	4/15
Home Region:	Brookline, Massachusetts, USA
Country of Citizenship:	USA
Marital Status:	Single
Languages:	Chinese Mandarin - fluent English - fluent
Professional Interests:	Communications: Multimedia, Entertainment: Arts/Culture, Entrepreneurship: Working for a Start-Up, Non-Profit: Community/Economic Development, Non-Profit: Foundations/ Grantmaking, Non-Profit: Education, Finance: Venture Capital
Interests:	Tennis, Rock Climbing, Music (especially 80s)
HBS Activities:	Social Enterprise Conference Co- Chair, Education Interest Group, Tennis Club, Entrepreneurship Club
Start-up Experience:	No

Work Experience

YouChange Foundation Foundations/Grantmaking	Beijing, China, People's Republic of	6/16-8/17
<i>Program Officer</i> (Strategic Planning)		
US Fulbright Commission Other	Beijing, China, People's Republic of	8/13-6/16
<i>Fellow</i> (Other)		
Teach For America Education	New York, NY, USA	6/11-6/13
<i>History Teacher</i> (Teaching)		

Source: Casewriter.

Exhibit 2 Descriptions of Select Online Dating Services

Service	Profile	Matching	Monetization
Coffee Meets Bagel	<ul style="list-style-type: none"> Built from Facebook, along with user's short description of their interests and personality; mutual Facebook friends shown 	<ul style="list-style-type: none"> Users receive suggested matches ("bagels") daily; must like or pass on each within 24 hours; females only shown bagels who have already liked them Mutual likes connected via chat; link expires after 7 days Can search "Discover" section for bagels with lower predicted compatibility and like them 	<ul style="list-style-type: none"> Purchase (or earn) "beans" then spend to "take" bagels from "Discover" section, send virtual "Wool"s, etc. \$35/month premium subscription option for extra beans, stats on bagels, etc.
OkCupid	<ul style="list-style-type: none"> Built from Facebook or manually; questionnaire on own and ideal partners' preferences across many topics, e.g., politics, lifestyle, religion, sex 	<ul style="list-style-type: none"> Suggested matches generated using compatibility score (based on questionnaire responses) and privately-assessed attractiveness parity Users can like a suggested match by either swiping right on preview profile ("QuickMatch") or clicking through to see full profile; mutual likes connected via chat Any user can message any other user at any time for free 	<ul style="list-style-type: none"> Ad-supported Premium subscription option (\$5/month) eliminates ads, allows sorting by attractiveness, increases message storage Pay extra to boost profile ranking, get message priority, etc.
Jiayuan	<ul style="list-style-type: none"> Extensive user-provided data, e.g., job, education, height, preferred partner attributes Trustworthiness stars for submitting proof of employment, residency, etc. 	<ul style="list-style-type: none"> Suggested matches based on users' physical and location specifications Users can search database using fine-grained filters Any user can message, "wave", and send virtual gifts to any other users for a fee 	<ul style="list-style-type: none"> Users pay to send/receive every message and to send virtual gifts
Dating Ring	<ul style="list-style-type: none"> Profile assembled by matchmaker from Facebook data, questionnaire responses, interview, and user-submitted photos 	<ul style="list-style-type: none"> Human matchmakers select matches after algorithm filters users based on shared interests, etc. Matchmaker emails preview profiles and explanations of the rationales for each match Mutual likes are connected via private SMS line Users provide post-date feedback to matchmaker 	<ul style="list-style-type: none"> Subscription plans, e.g., 2 matches/month for \$40; premium concierge service arranges date details Unpaid members can be matched to others but receive no matches directly
HurryDate	<ul style="list-style-type: none"> Events cater to preferences about partners' age, religion, etc. Partners get to know each other face-to-face in 4-minute exchanges 	<ul style="list-style-type: none"> After each of 15-25 four-minute exchanges, participants declare like or pass; mutual likes are given contact info 	<ul style="list-style-type: none"> Per event fee of \$30-\$40

Source: Casewriter analysis of sources cited in main text.

Endnotes

- ¹ Heather Cabot & Samantha Walravens, "How This Sister-Run Business Is Changing The Dating Game," *Forbes*, <https://www.forbes.com/sites/geekgirlrising/2017/02/13/how-this-sister-run-business-is-changing-the-dating-game/#6d281c14086e>, accessed June 2017.
- ² Travis Noddings, "Taste Online Dating With Coffee Meets Bagel," *Coffee Meets Bagel*, <https://coffeemeetsbagel.com/blog/index.php/original/taste-online-dating-coffee-meets-bagel/>, accessed June 2017.
- ³ Lilly Knoepp, "Play For Love On Female-Focused App Coffee Meets Bagel," *Forbes*, <https://www.forbes.com/sites/lillyknoepp/2016/07/19/play-for-love-on-female-focused-coffee-meets-bagel/#38a32b8f121d>, accessed June 2017.
- ⁴ Kate Roof, "Coffee Meets Bagel overhauls dating app with 'ladies choice,'" *TechCrunch*, [https://techcrunch.com/2016/07/19/coffee-meets-bagel-overhauls-dating-app-with-ladies-choice?](https://techcrunch.com/2016/07/19/coffee-meets-bagel-overhauls-dating-app-with-ladies-choice/), accessed July 2017.
- ⁵ "Conquer love with these crucial dating app statistics," *Medium*, https://medium.com/@sm_app_intel/conquer-love-with-these-crucial-dating-app-statistics-2870ec5493cd, accessed July 2017.
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- ⁷ "OkCupid Goes Local with Mobile Dating that People Will Actually Use," *PRWeb*, <http://www.prweb.com/releases/okcupid/locals/prweb8714067.htm>, accessed June 2017.
- ⁸ Kat Hannaford, "OkCupid Adds Grindr-Like Location Feature For Quick Shags or Romantic Dates," *Gizmodo*, <http://gizmodo.com/5830259/okcupid-adds-grindr-like-location-feature-for-quick-shags-or-romantic-dates>, accessed July 2017.
- ⁹ "Your Looks and Your Inbox", *OkCupid*, <https://theblog.okcupid.com/your-looks-and-your-inbox-8715c0f1561e>, accessed July 2017.
- ¹⁰ "JiaYuan CEO Interview, Rose Gong's Founding Story of JiaYuan, and the Secret to Her Success," *Online Personals Watch*, <http://www.onlinepersonalswatch.com/news/2011/07/jiayuan-ceo-interview-rose-gongs-founding-story-of-jiayuan-and-the-secret-to-her-success.html>, accessed June 2017.
- ¹¹ Evan Osnos, "The Love Business," *The New Yorker*, <http://www.newyorker.com/magazine/2012/05/14/the-love-business>, accessed June 2017.
- ¹² Evan Osnos, "The Love Business," *The New Yorker*.
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