9-119-033
REV: JULY 26, 2019

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Time-Driven Activity-Based Costing at Voray

Jenn (head of the sales team): "All three customers would increase revenues and profits. I don't see why we would turn any of them down."

Lauren (head of the community team): "Every week, we are at or close to capacity. We need to get a better understanding of the costs of each customer before we can say with certainty that we can handle them all or that they are all profitable."

The post-lunch lull of New York City's Bryant Park offered a peaceful contrast to the heated debate happening in a conference room 14 floors above. David Olk, the founder and CEO of Voray, took a moment to gaze out the window and appreciate the calm below on a sunny June day in 2017 as he listened to his team of 11 employees argue about whether to accept all customer contracts or decline some.

Olk, an entrepreneur with deep connections in the New York City start-up world, knew Voray would be a success, but he did not expect growth to be so rapid that he would have to contemplate turning down business only 18 months after the company was created. His team was now trying to determine not just how to handle order demand but also how to determine whether each customer was profitable. While it pained Olk to see his employees grow visibly agitated with one another, it also excited him to hear them think so deeply about Voray's business model and cost structure. He believed that overcoming this challenge of determining profitability—and convincing his employees that they were measuring profitability correctly—was vital to ensuring that Voray could grow rapidly while generating free cash flow, two characteristics that were often at odds in his past venture-backed experiences.

Gathering with Voray

Voray's business model was simple yet innovative. A customer, or sponsor, who was looking to expand her professional network contacted the company about having a "SmartGathering," usually an intimate dinner of between 10 and 17 people from a certain industry or profession. For example, the head of sales at an advertising agency might request that Voray organize a gathering with chief marketing officers at food-and-beverage companies with at least $50 million in revenues. After the contract was signed, Voray recruited a volunteer "host," someone with experience (and influence) in the area of interest who was connected to Voray, either as a past attendee of a gathering or through the company's own fast-growing professional network. This host would attend and moderate the gathering, and often help get the guest list started by inviting an initial 20 or so close, relevant colleagues.

Professor Ethan Rouen prepared this case. It was reviewed and approved before publication by a company designate. Funding for the development of this case was provided by Harvard Business School and not by the company. Certain details have been disguised. 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.

"I saw a gap between LinkedIn and MeetUp, where we could use software and technology to power more authentic in-person relationships that could produce a much more valuable and scalable online professional social graph," he said. "I knew that the foundation for such a market network would be intimate in-person gatherings of highly curated, relevant, and helpful people, enabled by proprietary software and processes."

Working with the host, Voray set a date and location for the event. Voray and the host then created a potential guest list, sometimes containing as many as 200 names and email addresses, and began recruiting people to attend the SmartGathering, with hopes of getting anywhere from 10 to 17 confirmed attendees. Once the list of attendees was set, Voray created an online platform to connect the group. Voray helped moderate the platform, which also ensured that attendees remained in touch after the gathering.

The First Year

Olk started Voray in January 2016 with cofounders Mark Gerson, the chairman of the Gerson Lehrman Group, and Gavin Myers, a prolific venture investor. (See **Exhibit 1** for the founders' biographies.) Olk had recently left another company he cofounded, ShopKeep which had grown from 2 to 280 employees. For the first several months at Voray, the entire company consisted of him and a Chief Technologist building a web-based platform and working the phones to recruit sponsors, hosts, and guests. They relied almost exclusively on Olk's own professional network to recruit sponsors.

"The first 50 dinners, I did all the work from contacting guests to identifying hosts to finding the sponsors," Olk said. "They were learning experiences where I wanted to see if there were specific steps to produce a curated gathering from soup to nuts."

Part of the reason Olk delayed hiring others was because he wanted to complete all the steps of the SmartGathering himself in order to gain a detailed understanding of how Voray's product was developed. With this knowledge, he set out to automate what he could and make the other steps as efficient as possible. By the end of the year, he had 10 employees who organized multiple gatherings a month in New York City, with plans to expand to Boston, San Francisco, Chicago, and Los Angeles within the next two years.

Pricing and Costs

"The first time someone bought a SmartGathering for $5,000, we realized there was value," Olk said. "That's when we began studying what we could charge."

Voray continued to raise the price during the first year without any decrease in demand and ended 2016 with an average price per SmartGathering of $8,000. But Olk could not say with certainty that each gathering was profitable. Operating costs included direct labor, defined as the time during which Olk was involved in the planning, as well as the time it took the technology team to build the platform; direct materials, which largely consisted of the cost of renting the venue; and overhead costs. Overhead included identifying the host, interacting with the venue, building the guest list, interacting with guests, and managing accounts, and was assigned at a rate of 185% of direct labor costs.

As the number of employees grew, Olk realized that the time it took to organize a successful event varied significantly depending on what kinds of guests the sponsor wanted, as well as the ability of the host and Voray's expanding network to attract a group of people who would reliably attend. Olk, who was a Director at PricewaterhouseCoopers' Mergers and Acquisitions Group before becoming an entrepreneur, thought that by tracking the time each step took, he could gain a deeper understanding of the costs Voray faced and the prices it needed to charge.

"I realized that the business was basically an exercise in time-driven activity-based costing (TDABC), and that we'd need to create a menu, focusing on how expensive an event was based on the time it took employees to produce it," Olk said. "Then, by identifying each step of repeatable human interaction, and the underlying costs, we could develop software with a focus on solving or automating the most expensive problems."

Enter the Pizza Tracker

By the beginning of 2017, the demand for SmartGatherings had grown to the point where Voray was frequently at capacity, even with a full-time staff now in place. It had held 45 gatherings in 2016 and was on track to more than double that in 2017. While the need to turn down potential revenue was frustrating, it also provided the impetus for the growing roster of employees to understand the characteristics of a SmartGathering that made it profitable. Understanding how costs accrued would allow the team to ensure it was not losing money on a SmartGathering while offering clients only gatherings that could be held at a profit.

Using the knowledge he developed putting on events by himself in the first year, Olk began building what he called the "Pizza Tracker," a detailed list of every step needed to create a SmartGathering. This list quickly grew from 20 steps to 64 steps to 95 steps, but the steps could be grouped into five main measurable activities that had until this point been considered part of overhead: host identification, venue interaction, list building, guest interaction, and account management (sales staff salaries and commissions were excluded from revenue and cost calculations when determining the revenues and costs of the gatherings). Voray began tracking the time it took to complete each activity and found that there was significant variation depending on the industry of the sponsor, the type of guests the sponsor wanted at the gathering, and the characteristics of the host. Each employee involved in developing a SmartGathering was full-time, working five days a week for eight hours with a one-hour lunch break.

As Voray grew, it acquired more data to hone its understanding of its cost structure. The average price of a gathering more than doubled by mid-2017, but demand and efficiency also increased, with gross margins growing from 37% at the end of 2016 to 54% by June 2017. (See **Exhibit 2** for the company's income statement.)

"With every SmartGathering, we learned a little bit more about our costs and a little bit more about what we were good at and what we weren't," Olk said. "We knew we couldn't do everything every customer wanted. Saying 'no' was hard, not just to the customer but also to the sales staff."

This careful study of costs also guided the company in where to focus product development not just in terms of its product offerings but in terms of how it deployed resources to automate the more costly and time-consuming aspects of creating a SmartGathering.

"It is the first business I've worked with where we use the underlying accounting to help make product development decisions," said Myers, the cofounder. "We have always been careful to distinguish between event-level gross profitability, which at times was as much as 80%, and the fully allocated profitability of each event. The accounting guided us in how we could minimize total costs to get closer to that gross profitability number."

Sitting at the Deal Table

As he contemplated using TDABC to determine the SmartGatherings Voray would offer, Olk correctly assumed that his sales staff would take issue with this costing strategy. Sales team members were paid, in part, on commission, so turning down a potential customer meant a loss in revenue not just for Voray but also for an employee. To ease tensions and increase transparency, Olk developed a pricing menu, based on the activities described in the Pizza Tracker, that described the types of events Voray could host and guided the sales staff in what to offer potential sponsors. He also began having a biweekly afternoon meeting, the "Deal Table," during which the sales team described potential customers, and the operations team, which handled the logistics of each SmartGathering, rated the customers based on the time (and cost) it would take to complete the requested gathering. (See **Exhibit 3** for an illustration of the Deal Table.)

By June 2017, the menu consisted of 38 potential SmartGatherings Voray could host. (See **Exhibit 4** for some sample menu items.) The menu items were based on geography—the company now offered events in four cities—as well as the targeted job titles of the guests, the industries in which they worked, and the size of their companies. The menu evolved based on Voray's networking effects, as well as its expanding stable of dependable hosts and highly engaged guests. The company had two main focuses: growing its customer base and continuing to develop its menu and profit margins by better understanding the process of developing a SmartGathering. At the Deal Table, the Voray employees could refer to the menu to understand how each activity involved in a SmartGathering would impact the costs as follows.

Host Identification

The host volunteered his or her time to help build an initial guest list and serve as the subtle conductor of the dinner, ensuring that the conversation flowed and all guests had the opportunity to spend time with one another. The host also dramatically impacted the time it took to put together a gathering. A host with the proper network—and the willingness to tap that network—reduced the time it took to complete a guest list from more than a week to less than a day. Voray cultivated a stable of superhosts who worked with the company to efficiently build a guest list in a short period of time, but Olk was also cautious about relying on the same hosts too often.

"There's a lot of variance in the time it takes to put together a SmartGathering," Olk said. "But a lot of that variance flows through the host. The ability and willingness of the host to work with us to get people to an event can determine whether that event is profitable or not."

Therefore, Voray had to take into account the time it would take to find a host and the time it would take to work with the host to build a guest list. (See **Exhibit 5** for a chart of how the type of host impacts the time it takes to recruit a host.) While this posed a challenge for Voray in terms of understanding the costs of a gathering, the company used data from prior events to create accurate estimates of each gathering, depending on the host profile. This process also served as an incentive to make each gathering as remarkable as possible, treating it not only as a customer experience but also as an opportunity to recruit the next superhost. By the second quarter of 2017, almost half of all hosts had attended a gathering, with another 20% coming from referrals from attendees. Fewer than 3% of hosts were recruited through cold outreach. (See **Exhibit 6** for a breakdown of host recruitment channels.)

The team tasked with identifying and recruiting the hosts consisted of two employees making an average of $66,716 per year.

Venue Interaction

While the opportunity to meet thought leaders in their fields attracted guests to the SmartGatherings, a seamlessly executed meal was necessary to ensure that they enjoyed the event. This step was initially time-intensive when entering a new market because the operations team needed to identify an appropriate restaurant and negotiate pricing, but Voray was able to quickly streamline the process by developing a small group of venues to which it could return multiple times. Once these relationships were built, Voray only had to work with the venue to find an appropriate date and finalize the food menu. A single employee making $48,568 per year was responsible for interacting with the venue.

List Building

The greatest variation in employee time came in developing a potential guest list. With a superhost willing to share his or her network contacts, the list took no employee time. With a less connected or less cooperative host, two Voray employees combed through company websites, social media pages, and Voray's database to develop a list of up to 200 potential invitees and their email addresses. Once this list was complete, the team sent out an email with a link to RSVP.

While there was uncertainty in determining the amount of time it took to create and complete a guest list, by early 2017, Voray was able to make reliable estimates based on the industry of the sponsor, the location of the gathering, and the types of guests the sponsor wanted. The process of building a list took 25 hours. If Voray did not receive 17 confirmed RSVPs, employees developed a new list and repeated the process, with the second time taking two times more hours than the first, due to the need to exclude the first 200 invitees from the new list. If Voray could not get between 10 and 17 confirmed attendees the second time around, the company did not host the SmartGathering. The company had three employees who built lists. They made an average of $74,464 per year.

Guest Interaction

Interacting with guests began immediately after they RSVP'd to an event and continued for several weeks following the SmartGathering. An important component of Voray's value came in offering a closed online platform where participants could interact before the event and could continue the conversation once the gathering had ended. Three employees making an average of $93,886 per year were tasked with starting interactions among participants, meeting with guests at the gathering, and ensuring that the dialogue carried over into the weeks after the event. A host could eliminate much of the time this took by assuming control of the online conversation. Alternatively, the employees could spend as much as 50 hours working with guests. This came in the form of frequent interaction before the gathering to reduce the likelihood of no-shows, or in encouraging platform participation to strengthen the bonds among the participants after the gathering. The employees' time commitment depended on the host, as well as the industry and type of people who attended.

Account Management

Account management consisted of three employees who worked in a hybrid customer service and sales role. They made an average of $83,911 per year. (See **Exhibit 7** for the account management process.) These employees handled the financial aspects of each SmartGathering, accepting payments from sponsors and ensuring that vendors were paid. Often, the person responsible for paying Voray was not the person who would be attending the gathering (the sponsor), so account management also kept in frequent contact with the sponsor throughout the entire process, making sure she was comfortable with the guest list and the venue. After the gathering, account management followed up with all guests to receive feedback and reached out to the sponsor to offer future gatherings. They also served as the tip of the sword for renewals and upsells.

Choosing the Right Customers

During that heated June Deal Table, Voray was contemplating accepting business from three potential customers. The team believed it had the capacity to accept all of them, bringing in $40,333 in revenue for the week and $8,377 in gross profits. (See **Exhibit 8** for a comparison of the costs and revenues of each gathering.) Jenn, the head of the sales group, was confident that Voray should accept all three, but Lauren, who oversaw the Community Team, was more cautious. The Community Team was tasked with identifying and executing some of the most difficult and variable aspects of each gathering. Jeff in operations interjected during the debate and proposed walking carefully through the description and activities of each SmartGathering.

SmartGathering 1: Human Resources in San Francisco

The sponsor who ordered SmartGathering 1 (SG1) was a fast-growing recruitment firm. An executive there wanted to meet with chief human resource officers of companies with at least 1,000 employees and wanted the host to be a top human resource executive at a large retail company. The event would be held in San Francisco, and, based on conversations with the sponsor, Voray was confident it could charge $15,000. San Francisco was a relatively new market to Voray as well, and Olk had been fielding calls from Bay Area companies eager to use Voray's services.

Voray had held two events in San Francisco but had yet to find a venue that met its standards. That meant that Venue Interaction would need 10 hours to identify a restaurant, negotiate the price, and select the menu.

Lauren raised concerns about the host profile and the related challenges of building a guest list. The sponsor was unwilling to bend on the characteristics of the host he wanted. Voray had held several events in the marketing space but had yet to identify a reliable host or a past guest who could attract the guests that the sponsor wanted. Still, because the Voray community already included so many marketing professionals, Olk knew Host Identification could find a host through community referrals.

In addition, Voray had little name recognition in San Francisco, meaning that people were less likely to RSVP. Lauren knew from other events that human resource executives also were reluctant to attend SmartGatherings. Based on previous experience, she was confident that List Building would have to build two potential guest lists to get enough confirmed guests. Even after Voray had a list of confirmed attendees, SG1 would require the maximum amount of Guest Interaction of 50 hours for two reasons. First, there was a high risk that guests would RSVP and not show up to the event. Second, human resources was a potentially large market, so Voray had incentives to make its value proposition explicit to all who attended. Relatedly, Account Management would need to spend 50 hours handling billing and follow-ups with the venue and the sponsor.

SmartGathering 2: A Long-Time Customer in New York City

SG2 would be held in New York City for one of Voray's long-time customers at a price of $8,833. The company, a large enterprise software business that provided software to sales teams, had already sponsored four gatherings, and so Voray continued to charge what it had for the first gathering. The guest list would consist of sales leaders at high-growth companies, but there were no restrictions on size or industry. The sponsor wanted to hold the gathering in the restaurant it had used for its prior events, so all Venue Interaction needed to do was spend one hour ensuring that the venue would be available on the selected date. In addition, all that would be needed from Account Management would be billing and guest-list approval, so it would take the minimum 10 hours.

The sponsor had requested as the host the cofounder of a technology company who had already hosted several successful SmartGatherings for Voray. She had not hosted an event for four months, but she had attended one as a guest recently and mentioned that she would love to host again. During each gathering she had hosted, she had used her own network to develop the entire guest list and would certainly do so again, so Voray would not need to use its List Building employees' time. She would also do the bulk of the guest interaction, meaning that the Guest Interaction team would need to spend only 10 hours monitoring the online platform and attending the event.

SmartGathering 3: The Sports Team's Head of Marketing

For SG3, an established payment processor hoped to meet a small group of chief marketing officers of companies with more than 1,000 employees. The company wanted to attract this crowd by bringing in as the host the head of marketing for a popular professional sports team in the United States. The event would be hosted in New York City, although the company was willing to change locations to suit the host's needs. The price would be $16,500.

Olk was most concerned about recruiting a host for SG3. He knew that sports executives would be difficult to recruit but would be a draw for many people, so investing up front to find the ideal host would pay dividends when it came to filling out the guest list. To his surprise, Sam, a Voray marketing intern, mentioned that he had previously worked on the marketing team of a Major League Baseball team that was currently in contention to make the playoffs. He volunteered to reach out to his contacts and recruit the Chief Marketing Officer (CMO) as the host. He was confident that the baseball CMO would be willing to meet in New York, but the CMO was a strict vegan. This meant that Voray would need to find a new venue, but the options would be limited. The Venue Interaction team estimated it would take 9 hours.

The entire team agreed that the host likely would devote no time to helping create a guest list, but Lauren knew that name recognition would ensure a sufficient number of RSVPs with a single guest list. Account Management would also be nearly taxed, needing 40 hours to handle billing and follow-ups with the sponsor. Still, Guest Interaction would require only the minimum 10 hours.

Digesting the Data

With all the information laid out in front of them, the Voray team began applying TDABC to calculate the costs and profitability of each dinner as Olk looked on with anticipation. Jenn looked again at the initial gross profitability measures with a slight sense of relief. Voray had been hiring to meet capacity concerns, and she couldn't imagine that measuring the costs differently would have a profound impact on profitability. Still, having sat in on the initial conversations about TDABC and having spent some time with Olk going into details on the cost structure of a SmartGathering, she knew that this early approach might fail to reveal the true time and costs of each gathering, so she was careful not to celebrate until the analysis was complete.

Exhibit 1 Biographies of Voray's Founders

David Olk

David Olk is the CEO & Co-Founder of Voray, a rapidly growing venture-backed technology platform redefining how professionals build authentic relationships. Prior to Voray, David co-founded ShopKeep, a technology company that provides cloud-based operating software to more than 30,000 small and medium businesses. David helped build ShopKeep from a kernel of an idea to one of New York's largest software as a service companies. Prior to ShopKeep, he was director of mergers and acquisitions of IAC, Barry Diller's publicly traded holding company of more than 50 consumer brands (including Match.com, Vimeo, Tinder, College Humor, Daily Beast, and others). David spent the first part of his career with PricewaterhouseCoopers' mergers and acquisitions team. He was also an early board member of Kickstarter, which he helped finance and advise from the earliest stages. David loves the New York City technology space and is currently a board member or advisor to more than 15 well-funded businesses. He's a TechStars Mentor, Entrepreneur in Residence at Columbia Business School, and a member of the Board of Directors for the University's Eugene Lang Entrepreneurship Center. He writes a weekly column on venture backed entrepreneurship in *Inc. Magazine* and is a regular contributor to *The Observer*.

Gavin Myers

Gavin Myers is the Managing Partner of Prudence Holdings, a private equity firm that makes early and growth stage investments in technology companies. Gavin has led Prudence's investments into Compass, Uber, Spotify, Blockchain, HZO, Julius, Morty and Voray. Prior to founding Prudence Holdings in 2009, Gavin worked at Sun Capital Partners where he was a Vice President in their buyout fund. His other professional experiences include Credit Suisse and Goldman Sachs. Mr. Myers graduated with a B.A. in political science from Yale University and an M.B.A. from Columbia Business School. Outside of work, he was a Founding Board Member of New Jersey Needs You, a non-profit focused on providing mentorship and career development to first generation college students. He lives in New York City with his wife Janie and two sons, Brooks and Kemp.

Mark Gerson

Mark Gerson is the co-founder and chairman of Gerson Lehrman Group (GLG). He is the chairman of United Hatzalah, the network of first responders that treat victims of pre-hospital trauma in Israel, and the co-founder and chairman of the Africa Mission Healthcare Foundation, which supports the work of medical missionaries performing clinical care throughout Africa. In addition, Mr. Gerson is a co-founder and co-chairman of Thuzio, chairman of Axial Markets and author of *The Neoconservative Vision: From the Cold War to the Culture Wars* (Madison Books: 1996) and *In the Classroom: Dispatches from an Inner-City School That Works* (Free Press: 1997). He graduated summa cum laude from Williams College and received his JD from Yale Law School.

Source: Company documents.

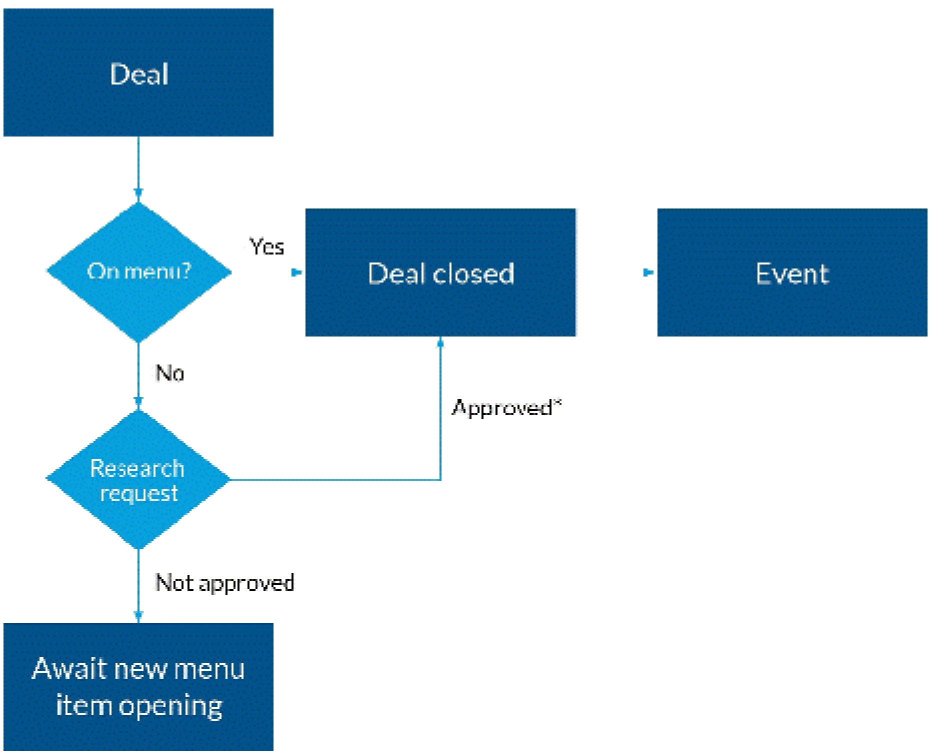
Exhibit 2 Voray's Income Statement

	2016	2017 (Jan–June)
Revenue	$ 238,258	$ 396,185
Cost of goods sold	$ 150,103	$ 182,245
Gross profit	$ 88,155	$ 213,940
Gross margin	37%	54%

Source: Adapted from company documents.

Note: Numbers have been disguised to protect confidentiality.

Exhibit 3 The Deal Table



Source: Company documents.

Exhibit 4 Sample of Menu Items

City	Guest job titles	Vertical	Guest company type	Guest company size (# of employees)
New York	Platform/Network/Community leaders	Venture Capital	Venture Capital Firms	N/A
New York	Allocators/Owners/Operators	Family Office	Family Investment Offices	N/A
Boston	CEO/Founder/C-Suite	Tech (health care)	Start-up	<500
San Francisco	Marketing leaders	E-Commerce/Retail	Enterprise	1,000+

Source: Adapted from company documents.

Note: Some details have been disguised to protect confidentiality.

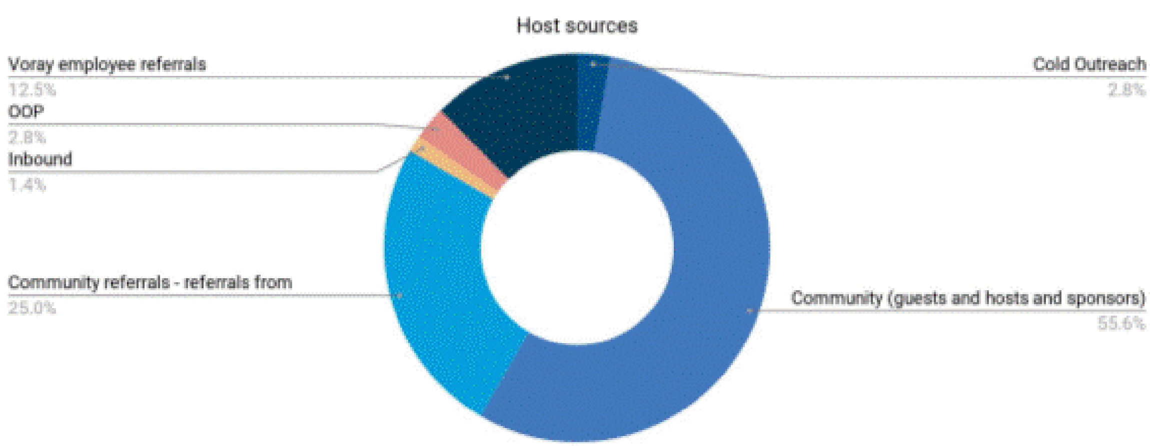
Exhibit 5 The Steps and Time It Takes to Recruit a Host, by Channel

Steps required	Past host	Past guest	Employee referral	Community referral	Cold outreach
Garner interest			X	X	X
Set up time to meet			X	X	X
Educate			X	X	X
Check qualifications		X	X	X	X
Check mandate fit	X	X	X	X	X
Date alignment	X	X	X	X	X
Average hours to secure	3	10	25	45	65

Source: Adapted from company documents.

Note: Some details have been disguised to protect confidentiality.

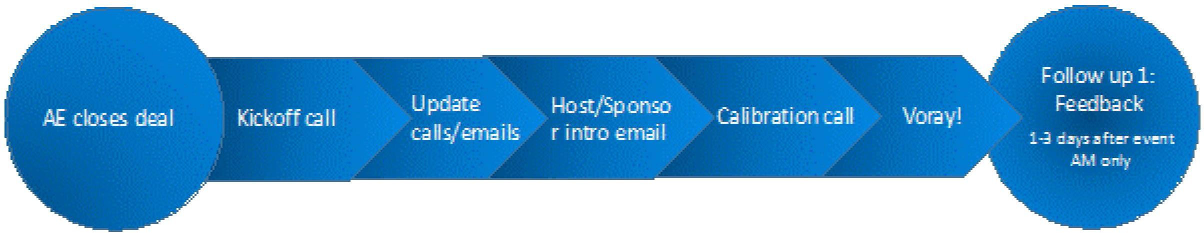
Exhibit 6 Descriptions of Hosts by Recruitment Channel



Source: Adapted from company documents.

Note: Some details have been disguised to protect confidentiality.

Exhibit 7 The Account Management Process



Source: Adapted from company documents.

Exhibit 8 SmartGathering Profitability Analysis

	SG1	SG2	SG3
Price	$ 15,000	$ 8,833	$ 16,500
Direct material cost	$ 1,642	$ 1,520	$ 4,224
Direct labor cost	$ 3,946	$ 2,401	$ 2,274
Overhead (@185%)	$ 7,300	$ 4,442	$ 4,207
Gross margin	$ 2,112	$ 470	$ 5,795
Gross margin (%)	14%	5%	35%

Source: Adapted from company documents.

Note: Numbers have been disguised to protect confidentiality.