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9-420-078

APRIL 3, 2020

YAEL GRUSHKA-COCKAYNE

JEFFREY T. POLZER

SUSIE L. MA

SHLOMI PASTERNAK

Ment.io: Knowledge Analytics for Team Decision Making

Ment is about finding excellence wherever it is.

— Joab Rosenberg, CEO, Ment.io

In early 2020, Ment.io (Ment) founder and CEO Joab Rosenberg felt the company he started five years earlier was taking off after initial struggles to develop the right product and build a client base. Ment was a software platform that used proprietary data analytics to help organizations make informed and transparent decisions based on team input. Ment took a unique decision-making approach by structuring online discussions so that it could apply its algorithm to surface the most relevant information for decision makers. Rosenberg founded the company in Tel Aviv with a friend and fellow Israeli military officer, Tzvika Katzenelson, in 2015. Ment was the rebirth of the company's first name and product, Epistema.

Ment was borne out of Rosenberg's frustration that, while organizations collected ever increasing amounts of data, the information gathering process did not capture human insights, which he viewed as critical to the use of the data. As former intelligence officers, he and Katzenelson were familiar with the difficulty of making decisions over email, on messaging platforms, and in long meetings that might not take into account the most relevant data points or include the right stakeholders. Ment was designed to correct for these inefficiencies, while making decision-making more data-driven and inclusive. Rosenberg's vision was to bring truth to decision making through analysis of human debate—not just raw data—which distinguished it from other analytics software. "What other companies were doing with raw data, we would do with human knowledge," he said. "Therefore, we refer to it as knowledge analytics."

Ment was a virtual meeting room. To start a discussion, a user logged into Ment's website or mobile app to pose a question, and other users in the group could add a response or respond to an existing answer in one of three ways: agree, disagree, or ask for clarification. Responses were ranked according to Ment's unique scoring mechanism, and users could view analytics summarizing the input along

Professors Yael Grushka-Cockayne and Jeffrey T. Polzer, Case Researcher Susie L. Ma (Case Research & Writing Group), and Shlomi Pasternak (MBA 2019) 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. 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.

with a decision recommendation. The company used its own platform extensively. Said Katzenelson, "There's 20 of us in Israel and we use Ment for any question, any decision that we want to make about marketing, R&D, sales, what we should give away at our next conference, what we should do for our company fun day, you name it."

Ment had drawn interest from a range of organizations, including government agencies, financial institutions, and universities. Rosenberg wanted to continue to serve a broad consumer base, but was not sure how to prioritize feature development given the range of user needs. He believed that since Ment was a small start-up, it would need to focus its resources in one area in order to succeed. Further complicating matters was that although interest in the company was strong, so was the competition. Rosenberg wondered how to grow sales when potential customers had a plethora of options in the collaboration and business analytics software space.

As he almost always did when faced with a decision, Rosenberg sat down at his laptop, opened Ment's website, and began typing a question to the company: "How should we prioritize product development to position our platform as a must-have piece of software for decision making? Should we invest in improving our user interface or developing new features? Or should we expand our proprietary algorithm?" He hit "post" and waited for his team to respond.

A Philosopher Entrepreneur

Rosenberg grew up in an Orthodox Jewish family. As a youth, he studied at a yeshiva, a Jewish school where students examined traditional religious texts and debated philosophical questions. He went on to study physics and math at university, and worked as a physicist and instructor in the Israeli army after graduation. He was drawn back to philosophy and specifically epistemology, the study of what knowledge was and where it came from.[1] He briefly left the military to earn a master's degree in the philosophy of science and technology. Afterwards, Rosenberg transitioned into a military intelligence role, where he applied his education and experience to determining how to seek the most reliable intelligence. In 2005, he began a PhD program in philosophy at Cambridge University in the U.K. but he put this on hold in 2007 when the military called him back to active duty.

Rosenberg's views on the pursuit of truth in knowledge guided his approach to data and technology: "I have the contrarian view that goes against the common perception of artificial intelligence,[a] which is that data and machines will replace humans. I think you need to find some kind of a hybrid that will look at the human intelligence, combined with the data. I'm not against the data, of course, and correlations and anomalies are very important, but they're not telling the whole story by themselves."

Industry Background

The competitive landscape for Ment included collaboration and productivity software as well as knowledge management tools. Collaboration software provided a way for workers to communicate, plan, manage, and share information on a centralized platform. It was first used widely in the 1990s with enterprise messaging software programs like Lotus Notes and Microsoft Outlook as well as video conferencing applications like WebEx.[2]

[a] Artificial intelligence (AI) was an area of study focused on creating machines with human intelligence capabilities.

Collaboration software was designed to help streamline organizational operations and boost productivity. The industry was partially driven by the increase in virtual and distributed teams.[3] A 2018 survey revealed that 44% of workers believed face-to-face meetings would decrease, and 70% believed they would spend more time on online collaboration platforms in the next three to five years (see **Exhibit 1** for survey results).[4] These trends were accelerated as COVID-19, an infectious disease that set off a pandemic in early 2020, forced many workers and companies to make decisions remotely.

In 2020, there was a wide range of collaboration software products on the market, with features such as messaging, file sharing, project management, and video conferencing, among others. Key players included Microsoft Teams, Slack, Cisco Systems, Zoom, Dropbox, and Atlassian.[5] Global market size was projected to grow from $31 billion in 2019 to $48 billion by 2024.[6] Although the products were not the same, Rosenberg believed Ment competed for the same slice of a company's software budget as Slack, which had 100,000 paying customers and counted 65 of the Fortune 100 companies as customers.[7]

Several companies offered knowledge management tools that included discussion-based features, such as Quora, a free form question and answer website that utilized crowd-sourced content; Kialo, an online public debate forum that structured answers into pros and cons; and Threads, an asynchronous discussion platform for businesses (see **Exhibit 2** for competitor comparison).

Company Founding

The seed of Ment formed in Rosenberg's mind while he was deputy head analyst in the Israeli military's intelligence operations, where he led a team of almost 1,000 intelligence analysts. He was steeped in the use of data analytics, from off-the-shelf platforms to more advanced internal proprietary systems. Over his 25 years in the military, he had observed the digital tools of his trade becoming more powerful and sophisticated, but he began to fear that human observations were not captured by computerized systems, and information sharing was limited to upper management. Rosenberg explained, "We lost the wisdom of the water cooler talks. Junior officers could not have a real voice, although they were closest to the data. It was almost impossible to find the time to generate new solutions and to think about the right questions. We were flooded with a lot of information, just not the kind that could really help us."

He recalled a specific incident in 2014 when he was leading a group of several dozen military analysts as part of a team of several hundred involved in a particularly complex military operation. He was surrounded by screens that presented data in numbers, graphs, and maps, and the Israeli political leadership relied on the analysts to use the information in an efficient and timely manner. In the midst of this, Rosenberg had a revelation:

> It was very clear to me that the Israeli military had invested tens of millions of dollars in structuring raw data, and we had a lot of it. But we had invested zero dollars in structuring the hypotheses and the knowledge of the humans involved in the exploration of the data. From the academic point of view, it was very clear to me that the data does not speak for itself. You have to start with the hypothesis, the question.

Shortly afterwards, Rosenberg left the military and started work on a business plan based on his idea that organizations could improve how they made decisions if they took a more analytical approach to integrating human expertise and judgment. Rosenberg knew that existing data analytics platforms provided insights by looking for patterns in raw data. He wondered if he could do the same thing with

human debate by structuring conversations and building an algorithm to find patterns in the discussion.

Rosenberg had little experience in the private sector outside of one year spent at Comverse, an Israeli software company, but he had many connections in the Israeli tech community. He asked his peers: "'How do you fund the company? Why do people give you money? What's equity?' I had many friends and former cadets of mine who were involved in tech for many years, so I spent a few months studying and meeting them for coffee."

He began pitching his business idea to Israeli investors as a tool for advanced organizations with hundreds of analysts, such as governments and financial institutions. Rosenberg received his first term sheet from an early-stage Israeli venture capital firm for $1 million in January 2015. However, he had hoped for $3 million in seed funding so he pursued a second investor. He came up empty handed when the second investor ultimately did not offer financing and the first offer was rescinded.

After that initial setback, Rosenberg secured his first investment of $1 million in August 2015 from PICO Partners. That same year, Rosenberg teamed up with Katzenelson to found Epistema, drawing from Rosenberg's educational grounding in epistemology. The cofounders incubated the company at Citi Accelerator, a startup incubator for the financial services industry in Tel Aviv. In August 2016, the company received another $1 million in seed money from Flint Capital (see **Exhibit 3** for funding rounds).

Seeking Business Truth

Rosenberg and Katzenelson believed that better decisions could be reached through collaborative thinking and they wanted to share this knowledge with companies. Katzenelson explained his approach to the market, "Knowledge is just a gathering of arguments and counter arguments, and all of us are just trying to evaluate what's true. In my view, the truth is the best course of action that an organization can take that will create the best possible outcome, but seeking that business truth is something that executives struggle with."

Katzenelson contended that big data[b] made it easy to save information, but the knowledge retrieval systems of the 1990s failed because they did not provide a way to sort and use the information, resulting in what he termed "document cemeteries." Business intelligence (BI) software made raw data more accessible by combining data mining, analytics, and visualization tools into one product, but it could not account for human discussion. Rosenberg said, "There is some expectation that computers make recommendations based on data correlations. There are many products in the market that offer exactly that. But this completely misses the understanding that effective analysis generates useful insights through human discourse."

Pilot

Epistema was a software system that could create knowledge maps, which were a visual tool that served as an inventory of forms of reasoning that existed within an organization. The ultimate goal of the knowledge map was to improve how knowledge was shared and integrated. Epistema's knowledge maps, also called issue maps or mind maps, presented knowledge in terms of arguments and counter arguments. The company almost immediately landed several major clients to run paid pilots in 2016, including a sell-side research bank. The bank was interested in using the product to

[b] Big data referred to the vast amount of digital data available from humanity's increasing use of technology.

create knowledge maps based on their analysts' expertise. However, the pilot quickly turned from an exciting opportunity into a daunting challenge. Successful deployment of the product depended on input from the client's analysts to create the knowledge maps, but analysts were more comfortable writing documents than creating knowledge maps.

In addition, there was a mismatch between the business operations and culture of Ment and the bank. Rosenberg described the relationship as "like water and oil." For example, a management staffing change at the client site would result in a re-evaluation of company strategy, leaving Rosenberg hanging in limbo while the client decided whether or not to move forward with the pilot. Rosenberg also realized that large companies had a long sales cycle and decisions about new software were not made quickly, which was difficult for a cash-strapped start-up. He said, "Being a startup of 10 people trying to satisfy a huge bank as your first client is hugely, hugely problematic."

In the end, Rosenberg realized the pilot product was too complex and required more time and effort to implement than clients were willing to invest. It became clear that the company needed to pivot. Rosenberg laid off half of his 20 employees in 2017. He said, "It was a big crisis, but also a big opportunity."

Pivot

The pared-down team spent the next four months rethinking its product and considering the options. Based on the pilot experience, Rosenberg wanted to target smaller companies and tap into an existing workflow for workers who already used online discussion tools, but with the same goal of helping companies make better decisions with data. Instead of asking analysts to create the knowledge maps, the new product would capture the information needed to create knowledge maps through online discussions. The team designed a platform that structured online discussions to allow its algorithm to find patterns in the discussion. The algorithm sifted through discussion patterns in a way that highlighted the "wisdom of the crowd," which was the idea that the collective opinion of the many was better than the few. The new product was designed to improve decision-making that previously took place over email or chat threads, or in meetings.

Ment Product Manager Asaf Sharf explained, "Ment is a discussion platform for organizations that want to have better discussions and to be able to reach the best insights possible. That is the reason we always start a discussion with a question." Sharf noted that it can be deceptively difficult to shape a question. However, he said, "We believe that before anything, before you start looking at Ment's scoring mechanism and advanced analytics, the very fact that you're looking at a discussion from this perspective is going to create a better discussion." He continued, "Personally, after five back-and-forth emails, it's practically impossible for me to figure out who said what, when, etc. I often see people ask, 'Can somebody summarize for me what happened up to now?'"

Funding

Once the company had a prototype, Rosenberg shopped it around to raise venture capital. Prior to the pivot, the company's seed funding had started to dry up. Rosenberg assumed that securing pilot projects with multinational companies would help him raise additional capital, but investors wanted to see the results of the pilots first. Rosenberg met with a number of U.S. venture capitalists and investors in 2017, but had trouble securing commitments. However he had been introduced to Ajay Royan, who cofounded Mithril Capital Management with billionaire investor Peter Thiel. Rosenberg built a relationship Royan, even though Mithril did not initially consider an investment in Ment because it was not an early-stage investor.

However, towards the end of 2017 when Epistema had only enough cash for one more week of operations, Mithril agreed to invest. In April 2018, Israeli venture capital firm MizMaa Ventures led Ment's $6 million series A round with Mithril and Slack, which had a fund to invest in companies building tools on top of the Slack app.[8] With the influx of funding, the new product was launched in November 2018 as Ment, a name derived from the Latin word for mind, which was "mens."[9]

Building a Knowledge Analytics Platform

Technology

Ment's key innovation was its scoring algorithm, based on Bayes's theorem. Bayes's theorem was a mathematical formula for conditional probability[c] established by 18th century British mathematician Thomas Bayes. The intuition behind Bayes's theorem was that existing knowledge could be updated with new information. New information helped to narrow down possible future outcomes. The applications of Bayes's theorem were broad. For example, in 1942 British mathematician Alan Turing used Bayesian thinking to crack the secret Nazi messaging code that helped the Allied Powers win World War II.[10] In 1998, Bayes's theorem was used to locate $50 million worth of gold lost when a steamship sunk off the coast of South Carolina during a storm in 1857.[11] Bayes's theorem was also a basis of artificial intelligence and machine learning[d] and was used in early versions of Google's search function.

Ment used a Bayesian network to analyze and summarize discussion data. The data was stored in a graph database, a type of database that captured and stored relationships between data points.[12] Each Ment discussion generated a knowledge map in the database. Branches of the map, called nodes, represented different possible outcomes and Ment's algorithm calculated probabilities for each outcome. Within each discussion, information was updated based on support for a certain point of view, combined with any historical information about an individual's tendencies to be agreeable or contrarian. Ment's algorithm calculated similarities using pattern recognition applied to the agreements and disagreements in the course of the discussion. (See **Exhibit 4** for example.)

User Experience

Ment's design was critical to the success of its product because of how the discussion data was collected. The user interface (UI) was designed to collect responses in a format that would fit its Bayesian network. For example, a question with many answers was difficult for Ment to analyze because it was likely that at least some of the answers would be similar. Sharf explained, "On the side of the mechanics, what actually happens is that we are translating the answer and its downstream comments into a Bayesian network. The fact that we require each user to tell us, 'Do you agree or disagree with the comment?' helps us label the nodes on the network in a very simple way."

When responding to a question, users could add an answer, agree with an existing answer by giving a virtual thumbs up, or disagree with a thumbs down. Users could also ask for clarification, add comments and use data to reinforce their response. Once a question had three responses, Ment's interface minimized the "add an answer" function, to encourage users to agree or disagree with existing responses. However, Ment did not prevent users from adding new responses.

[c] Conditional probability was the probability of an event occurring contingent on the occurrence of a previous event.

[d] Machine learning was a subset of AI that trained machines to learn from data.

Rosenberg believed that the real-time flow of information in tools like Slack and Microsoft Teams limited the ability of teams to think more deeply about solving problems, so Ment intentionally provided an asynchronous user experience that allowed users to participate in discussions at their convenience. The product could be used by groups of up to several hundred users independently or in conjunction with email and workplace chat software such as Slack and Microsoft Teams. Discussions could be open to the entire team or select users, although Rosenberg opposed invitation-only groups because he championed high levels of transparency. At Ment, all discussions were open to all employees and even board members.[13]

Scoring Mechanism

The main feature that differentiated Ment from competitors was its scoring mechanism. Ment displayed two types of scores to users: an answer score and a user score. Each answer was scored on a scale between 1 and 10 based on the amount of support for the answer, as well as the expertise of each user voting. The scoring mechanism also took into account the discussion structure, patterns of agreement and disagreement between team members, and past discussions. The answer with the highest score was deemed the best answer. Sharf said, "This [score] does not necessarily represent truth, but it does represent the communal perception of the team about your answer. We have this notion that nobody holds the entire truth inside an organization, but everybody has unique value to bring into the discussion."

Ment was designed to be inclusive, but all answers were not weighted equally. For example, if a discussion question was about customer service, the answer of a customer service team member might be scored higher than an engineer's answer because Ment would identify the customer service team member as possessing greater expertise on the topic. However that did not mean that the customer service team member's answer would always be scored higher. Katzenelson explained further:

> If I'm new to the team and the team does not yet identify whether I'm an expert or not, the moment I express my point of view and, for example, the marketing expert within the team supports what I'm saying, my score in the discussion will be affected immediately as well as my perceived expertise level. The interesting thing is that the more insights that are added to the system, the easier it becomes for the system to identify not only my expertise but my expertise per topic.

The individual user score was based on how the user's answers were rated by others, the number of contributions the user made to discussions, and how many team members viewed the user's answers. Users with scores in the top 50th percentile were awarded between one and five stars. A user with no stars was in the lower 50th percentile.

The scoring mechanism was a point of discomfort for some. Rosenberg explained, "The underlying issue here is that the whole vision of the product and the company is to be judgmental about claims. We want to be able to assign a believability score."[e] Inherently this meant that the response of some users would be deemed less relevant or valuable to the discussion than other responses. Sharf described a user testing session where a tester submitted an answer that was criticized, causing the tester to become so embarrassed that he removed his answer.

[e] Believability scoring comes from believability-weighted decision making, promoted by investment firm Bridgewater Associates, which weighed the opinions of those it calculates as more capable decision makers over the opinions of less capable decision makers.

Rosenberg understood the sensitivity around the scoring mechanism: "This is a major shift in how people think about discussions both culturally and epistemologically." But the function was critical to the product. The company iterated on how it presented this score to users. In the product's first iteration, an answer was labeled as "weak" or "strong." Based on negative user reception to the labeling system, Ment eventually removed the labels. Then, Ment tried displaying the answers by score without showing the score, but felt that solution lacked transparency. Instead, Ment stopped attaching scores to an answer until the discussion reached a certain threshold of participation.

When clients expressed concern about the scoring, Sharf told them, "We are like a mirror. We are trying to make you better understand what the organization or the team thinks in the current moment. It's not a reflection on the users themselves."

Analytics

The scoring mechanism made Ment's analytics possible. Ment users could generate analytics from each discussion that included a recap of the decision, which employees participated in the discussion, and a rating of the discussion quality from poor to excellent, based on metrics like the number and diversity of participants as well as the number of responses (see **Exhibit 5** for screenshot).

Ment also provided personal and team analytics. Sharf said, "Since we have all of this information about every user—how they voted, what they said, and what everybody thought about what they said—we are actually able to provide insights about the behavior of the team and the behavior of each specific person." Team analytics showed overall discussion quality and team collaboration, as well as various statistics, such as the average number of answers, participants per discussion and the average time to make a decision for all team discussions (see **Exhibit 6** for screenshot).

Personal analytics, which were only visible to the individual user, were based on six metrics: thoroughness, balance, clarity, activity, believability, and collaborativeness (see **Exhibit 7** for screenshot). One team member was highlighted as the "Team's Best Knower," or the user whose insights were closest to the truth according to his or her peers. Recently Ment launched a "think alike" metric that displayed a user's correlation, or the percentage of times a user agreed, with other team members. Building on this, Ment planned a feature that would recommend which participants to invite to meetings to diversify the discussion.[14]

Business Model

Rosenberg believed the potential market for Ment included all organizations that needed to make decisions. For the time being, however, he targeted financial services companies because, Rosenberg explained, "For these firms, 'truth' is translated directly into money and revenue, so they are willing to spend money on software that helps with making more reliable decisions." He also focused on product teams at tech companies with more than 300 employees because tech companies tend to be early adopters of technology. In 2020, Ment was used actively by hundreds of teams within dozens of clients that included Microsoft, The Salvation Army, and the University of California at Berkeley.

Rosenberg pitched the product primarily as a productivity enhancer to shorten or eliminate long meetings as well as bridge geolocation gaps. Customers also used the product for collecting customer feedback and storing institutional knowledge based on past discussions. In addition, Ment could preserve an organization's historical knowledge. Rosenberg gave an example: "I asked a question a few months ago about what we should do with our mobile app: what does R&D recommend and what are the priorities? The system immediately highlighted a similar discussion that had occurred six

months ago. I saved so much time and was able to access so much meaningful historical knowledge from the discussion six months ago."

Rosenberg also presented Ment as a tool to improve company culture and worker satisfaction because it increased transparency and helped employees feel more involved in company decision making.

Pricing and Revenue

In 2020, Ment offered users a 14-day free trial on its platform, after which it was priced at $99 per month for up to 20 users and $250 per month for 200 users. Ment followed the lead of SaaS companies like Slack that priced similarly on a per user monthly subscription basis. Users who accessed Ment through its integration with Slack or Teams were subject to the same pricing structure. By comparison, Slack charged $6.67 per user per month for a standard account and $12.50 for a premium account, which offered additional features such as guaranteed uptime. Slack users who paid annually received a small discount over those who paid monthly. Slack also offered a free membership option with basic features.

In addition to its online platform, Ment offered private on-premise[f] installations for companies who desired a higher degree of control over their data and were hesitant to put their information online due to security concerns. In those cases, custom pricing was determined based on number of users and required integrations. Around 60% of Ment's paying customers used the SaaS platform and 40% were on-premise customers. However, these percentages numbers flipped for sales revenue, with 60% of the company's revenue coming from on-premise installation customers.

Challenges

Rosenberg stepped out to lunch after posting his question about where to focus product development and when he came back, he saw a number of responses.

The most highly scored response so far was from a product manager who suggested the company should spend time improving Ment's UI by simplifying the discussion page. Other members of the product team, which included user experience (UX) designers agreed. A designer made the point that some customers did not use or even understand the analytics, but all customers would benefit from a better UI. Another team member commented that a more intuitive UI would make it easier to onboard new users. Several members of the sales team voted for this answer and one added that she thought a more inviting UI would help Ment gain market share.

Additional answers with lower scores included the suggestion that the company improve its mobile app because Ment's mobile experience was not as strong as its web platform and competitors like Slack and Teams offered mobile apps. Another response was from a team member who suggested that the company make the product more fun to use by developing more "mindojis"—symbols like emojis that signal the content of the user's claim.

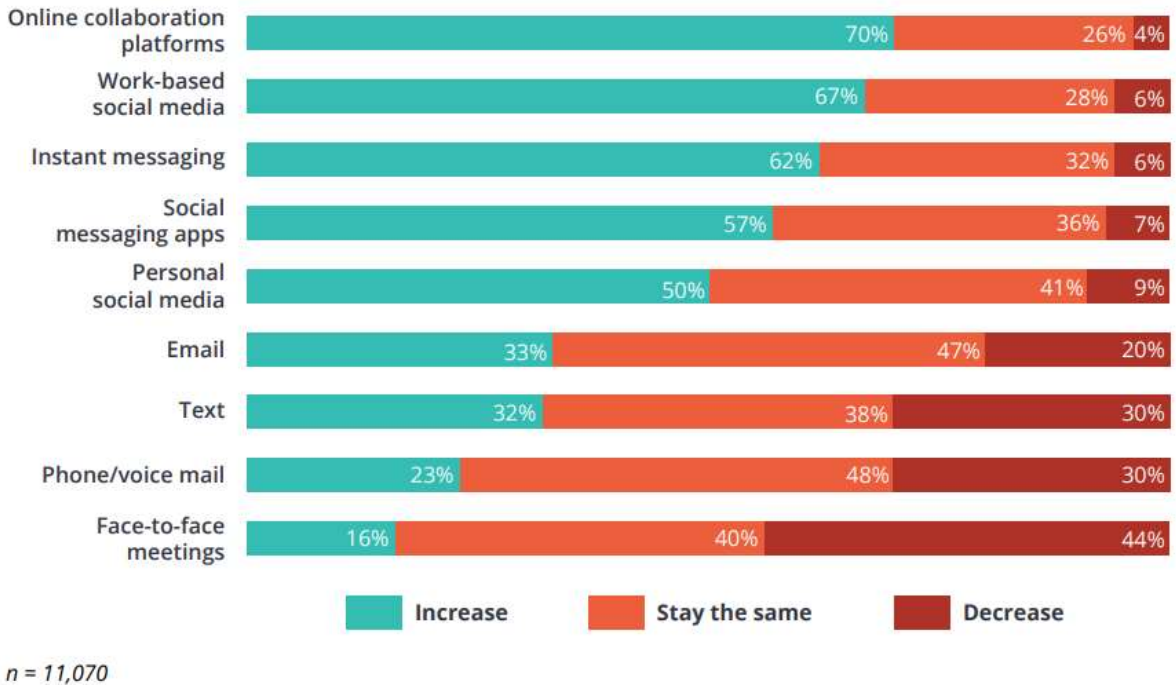
Rosenberg disagreed with the existing answers so he added his own response. He wanted the company to expand its algorithm to help fulfill his original vision, which was to bring truth to decision making. He bolstered his argument with evidence that the company's most sophisticated clients, such as hedge funds, were excited by Ment's potential to highlight the best possible decisions through its

[f] On-premise software was located on a company's servers and managed internally.

algorithm. Katzenelson voted for Rosenberg's response, adding that its algorithm was the company's real innovation and that crowd-sourced information forums such as Quora and collaboration tools such as Slack and Threads did not offer analytics based on discussion participation. Members of the development and data science teams chimed in to agree.

Rosenberg would give the rest of the team additional time to participate in the discussion before making a decision, but despite his best persuasive efforts, so far the product team's answer had a higher score. Well, he thought, whether or not the final decision was his personal preference, this discussion was an example of how Ment could help a team collaborate.

Exhibit 1 Expected Use of Communications Channels in the Next Three to Five Years (2018)



Source: "The Rise of the Social Enterprise" (PDF), Deloitte Insights, 2018, p. 82, https://www2.deloitte.com/content/dam/Deloitte/at/Documents/human-capital/at-2018-deloitte-human-capital-trends.pdf, accessed December 2019

Exhibit 2 Collaboration and Productivity Software Competitive Landscape (2020)

Product	Launched	Located	Product Description	Pricing Model
Threads	2019	San Francisco, CA	An online decision making platform that enabled workers to create virtual spaces to communicate asynchronously and capture feedback from the entire team in one place instead of scattered across different tools.	Free for individuals with up to five spaces and 10 users per space. Pro package for individuals was $20 per month and included unlimited spaces with up to 100 users per space. For teams, $10 per month per team member with unlimited users.
Kialo	2017	Brooklyn, NY	An online public debate platform that started with a thesis and structured answers into pros and cons to showcase different points of view.	Free.
Quora	2010	Mountain View, CA	A question and answers website where users shared knowledge by asking questions, answering questions, or editing answers.	Free.
Slack	2013	San Francisco, CA	A collaboration platform for workplace chatter and group conversations.	Free for unlimited users but with a limited amount of storage and third-party app integration. Standard package was $6.67 per user per month and Plus plan was $12.50 per user per month.
Microsoft Teams	2017	Redmond, WA	A chat-based workspace created by Microsoft and offered in Office 365. Users could host and conduct online meetings and access, share, and edit Word docs, PowerPoint, and Excel files in real time.	Free for 300 users but with a limited amount of storage and third-party app integration. Two tiered premium packages—one at a per person monthly fee of $5 and another with a per person monthly fee of $20 with additional features.

Source: Casewriter compiled from: Threads, "How We Use Threads," https://threads.com/how-we-use-it and "Pricing Plans," https://threads.com/pricing; Kialo, "About Us," https://www.kialo.com/about; Hans Tveten, "Why Should You Look into Quora Ads for Your Business?" *PowerDigital Marketing*, May 2, 2019, https://powerdigitalmarketing.com/blog/quora-ads/#gref; James Sanders, "Slack: A cheat sheet," TechRepublic, September 25, 2019, https://www.techrepublic.com/article/slack-the-smart-persons-guide/; Slack, "Pricing Plans," https://app.slack.com/plans/TUXEHF28H/; Tyler Lacoma, "Slack vs. Microsoft Teams," *Digital Trends*, January 10, 2020, https://www.digitaltrends.com/computing/slack-vs-teams/; Microsoft Teams, https://products.office.com/en-us/microsoft-teams/group-chat-software, all accessed March 2020.

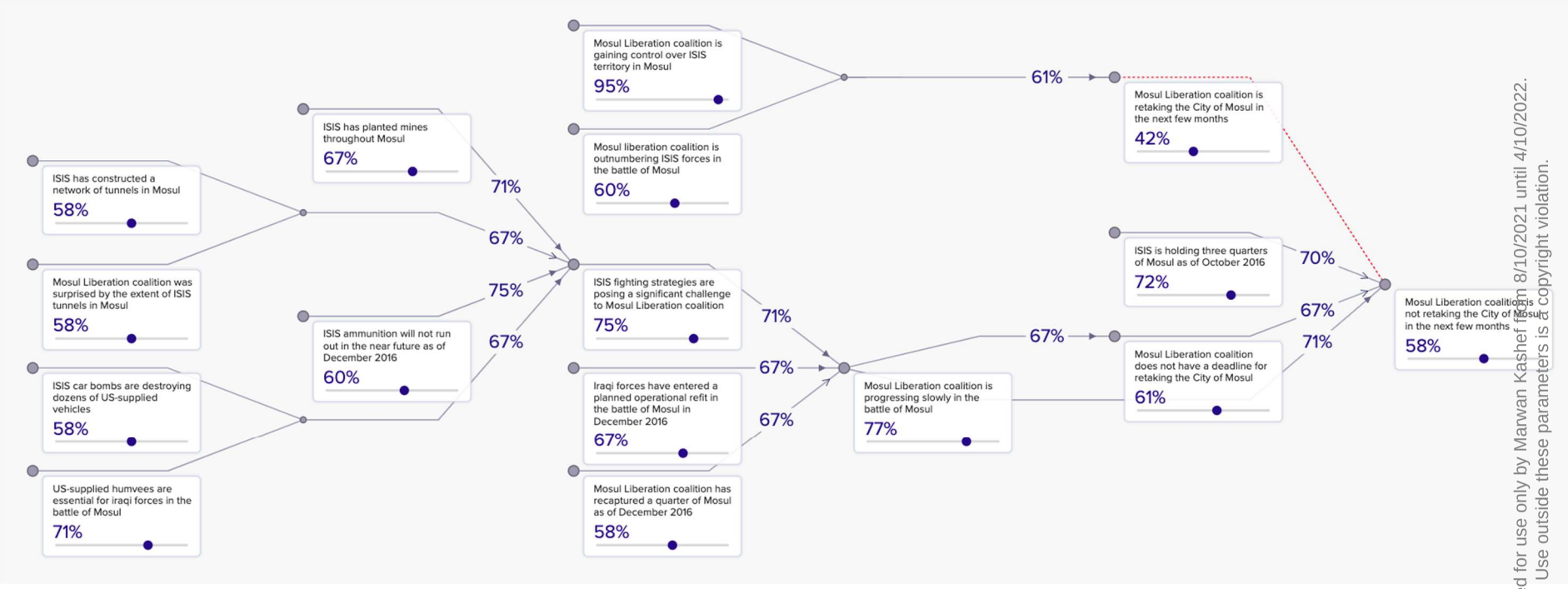
Exhibit 3 Ment Funding Rounds (2015-2018)

Date	Round	Investors	Amount
July 2015	Seed	PICO Venture Partners	$1 million
August 2016	Seed	Flint Capital	$1 million
April 2018	A	MizMaa Ventures, Mithril Capital Management, Slack Fund	$6 million

Source: Casewriter compiled from "Ment.io," Crunchbase, https://www.crunchbase.com/organization/Ment#section-funding-rounds, and "Ment.io Funding," Startup Nation Central, https://finder.startupnationcentral.org/company_page/epistema-analytics; both accessed February 2020.

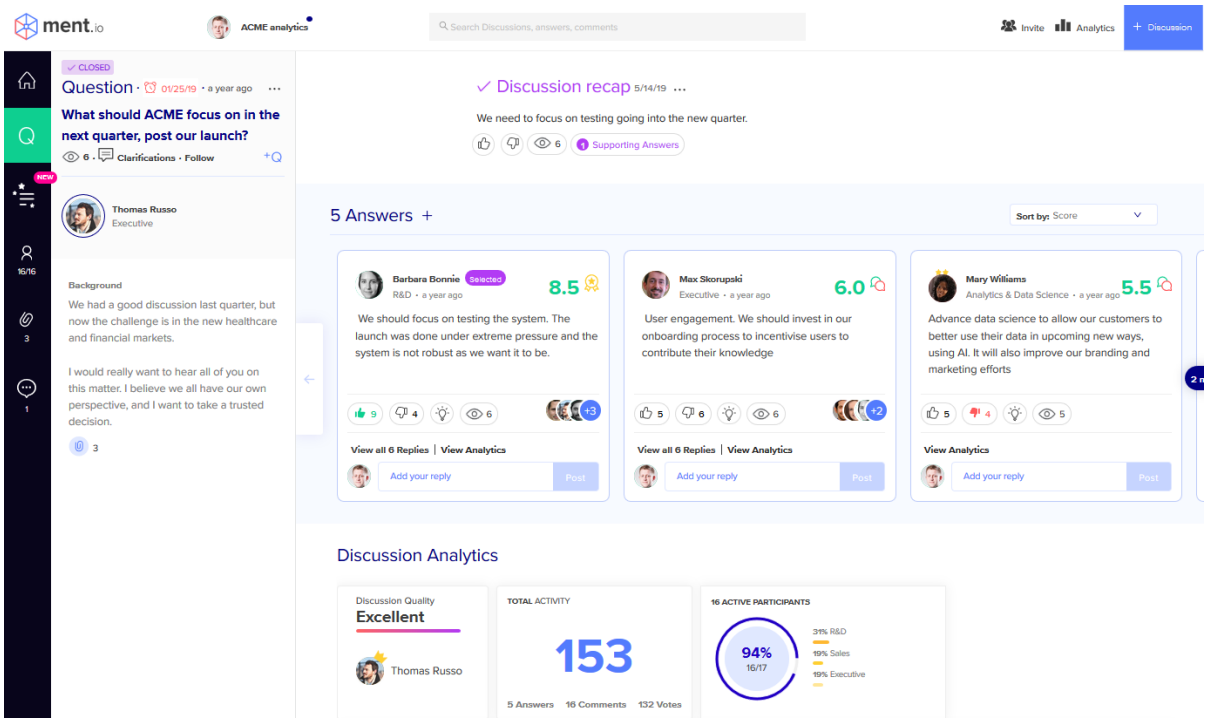
Ex**hibit 4** Sample Knowledge Map

Question: Will the Mosul liberation coalition take over the city of Mosul?



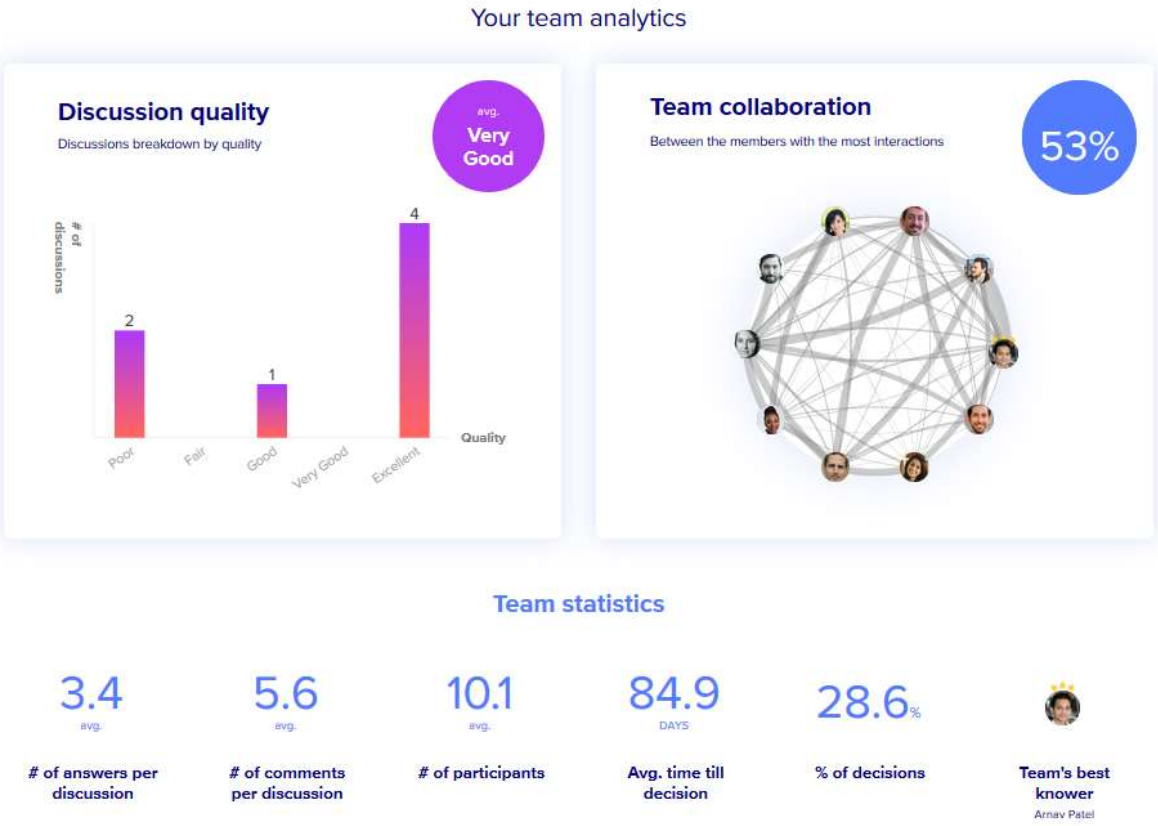
Source: Company documents

Exhibit 5 Ment Decision Summary (2020)



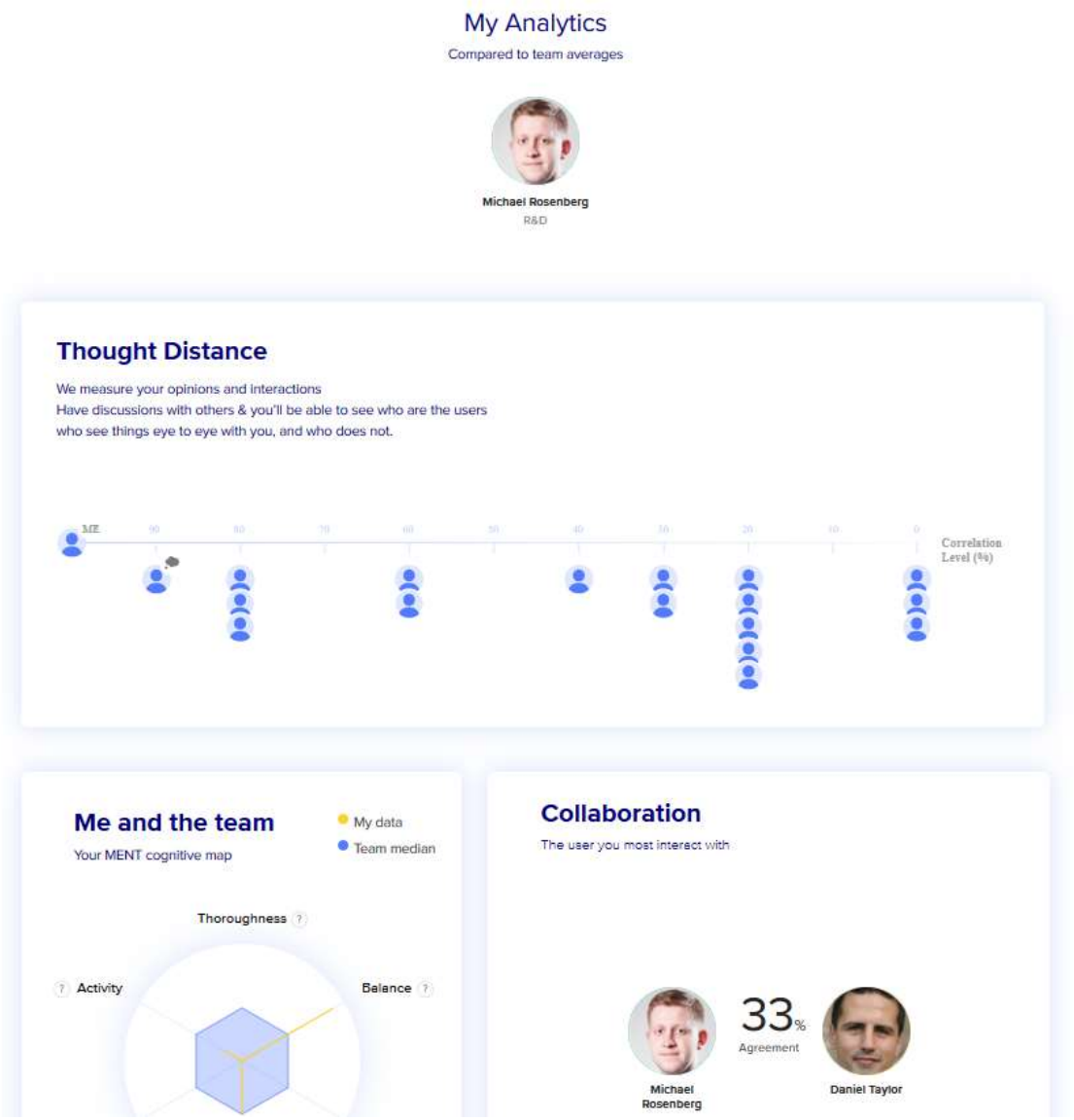
Source: Company demo.

Exhibit 6 Ment Team Analytics (2020)



Source: Company demo.

Exhibit 7 Ment Personal Analytics (2020)



Source: Company demo.

Endnotes

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