UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 10-K

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2019

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from ________________ to ________________

Commission File Number: 001-38386

CARDLYTICS, INC.

(Exact Name of Registrant as Specified in its Charter)

Delaware	26-3039436
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

675 Ponce de Leon Ave. NE, Ste 6000 **Atlanta** **Georgia** **30308**

(Address of principal executive offices, including zip code)

(888) **792-5802**

(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Securities Exchange Act of 1934:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock	CDLX	NASDAQ

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☐	Accelerated Filer	☒
Non-accelerated filer	☐	Smaller reporting company	☐
		Emerging growth company	☒

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

As of June 28, 2019, the last business day of the registrant's most recently completed second fiscal quarter, the aggregate market value of the voting stock held by non-affiliates of the registrant was $455.3 million based upon the closing sale price of our common stock on that date.

As of February 28, 2020, there were 26,704,481 shares outstanding of the registrant's common stock, par value $0.0001 per share.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement, to be filed pursuant to Regulation 14A under the Securities Exchange Act of 1934, for its 2020 Annual Meeting of Stockholders are incorporated by reference in Part III of the Form 10–K.

CARDLYTICS, INC.
ANNUAL REPORT ON FORM 10-K
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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K ("Annual Report"), contains “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933, as amended ("Securities Act"), and Section 21E of the Securities Exchange Act of 1934, as amended ("Exchange Act"), that reflect our current expectations regarding future events, our strategy, future operations, future financial position, future revenues, projected costs, prospects, plans and objectives of management. Forward-looking statements include any statement that does not directly relate to a current or historical fact. In some cases, you can identify forward-looking statements by the words “anticipate,” “believe,” “continue,” “could,” “estimate,” “expect,” “intend,” “may,” “might,” “objective,” “ongoing,” “plan,” “predict,” “project,” “potential,” “should,” “will,” or “would,” or the negative of these terms, or other comparable terminology intended to identify statements about the future. These statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from the information expressed or implied by these forward-looking statements. The forward-looking statements and opinions contained in this Annual Report are based upon information available to us as of the date of this Annual Report and, while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. Forward-looking statements include statements about:

- our ability to continue to add new financial institution ("FI") partners and marketers and maintain existing FI partners and marketers;
- with respect to Cardlytics Direct, our ability to increase FI partner customer engagement from new and existing FI partners;
- our expectations regarding the continued roll-out of the Cardlytics Direct program for Wells Fargo during 2020;
- our ability to increase revenue from new and existing marketers in both new and existing industry verticals;
- our expectations regarding an FI partner's completion of certain milestones and the associated FI Share commitment shortfall;
- the effects of increased competition as well as innovations by new and existing competitors in our market;
- our ability to adapt to technological change and effectively enhance, innovate and scale our solutions;
- our ability to effectively manage or sustain our growth and to sustain profitability;
- potential acquisitions and integration of complementary business and technologies;
- our ability to maintain, or strengthen awareness of, our brand;
- perceived or actual integrity, reliability, quality or compatibility problems with our solutions, including related to unscheduled downtime or outages;
- future revenue, hiring plans, expenses, capital expenditures, capital requirements and stock performance;
- our ability to attract and retain qualified employees and key personnel and further expand our overall headcount;
- our ability to grow our business;
- our ability to stay abreast of new or modified laws and regulations that currently apply or become applicable to our business both in the United States and internationally;
- our ability to maintain, protect and enhance our intellectual property;
- costs associated with defending intellectual property infringement and other claims;
- the future trading prices of our common stock and the impact of securities analysts’ reports on these prices; and
- other risks detailed below in Item 1A. “Risk Factors.”

You should refer to Item 1A. “Risk Factors” section of this Annual Report for a discussion of important factors that may cause our actual results to differ materially from those expressed or implied by our forward-looking statements. As a result of these factors, we cannot assure you that the forward-looking statements in this Annual Report will prove to be accurate. Furthermore, if our forward-looking statements prove to be inaccurate, the inaccuracy may be material. In light of the significant uncertainties in these forward-looking statements, you should not regard these statements as a representation or warranty by us or any other person that we will achieve our objectives and plans in any specified time frame or at all. We undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law. You should, therefore, not rely on these forward-looking statements as representing our views as of any date subsequent to the date of this Annual Report.

Except as otherwise indicated herein or as the context otherwise requires, references in this Annual Report to “Cardlytics,” the “company,” “we,” “us,” “our” and similar references refer to Cardlytics, Inc. and, unless the context otherwise requires, its consolidated subsidiaries.

PART I.

ITEM 1. BUSINESS

Overview

Cardlytics operates an advertising platform within financial institutions' ("FIs") digital channels, which include online, mobile, email and various real-time notifications. Our partnerships with FIs provide us with access to their anonymized purchase data and digital banking customers. By applying advanced analytics to this aggregation of purchase data, we make it actionable, helping marketers identify, reach and influence likely buyers at scale, and measure the true sales impact of their marketing spend. We have strong relationships with leading marketers across a variety of industries, including national and regional restaurant and retail chains, large providers of cable satellite television and wireless services, and increasingly, travel and hospitality, grocery, e-commerce and luxury brands.

Our purchase intelligence, coupled with our access to customers using FIs' online, mobile, and email channels, enables us to help solve fundamental problems for marketers. Marketers increasingly have access to data on the purchase behavior of their customers in their own stores and websites. However, they lack insight into their customers' purchase behavior outside of their stores and websites, as well as the purchase behavior of individuals who are not yet customers. The reality is, no matter how robust their own customer data, marketers only see a small portion of their customers' overall spend. As a result, it is very difficult for businesses to focus their marketing investments on the most valuable customers. By consolidating the largely untapped, high growth mobile and online banking channels of FIs we enable marketers to reach potential customers across our network of FI partners through their digital banking accounts and present them relevant offers to save money at a time when they are thinking of their finances. Marketers are also challenged to measure the performance of their marketing. This issue is particularly acute with respect to measuring the impact of marketing on in-store sales, where the vast majority of consumer spending occurs. We believe purchase intelligence is the next disruptive opportunity in marketing and can comprehensively address these challenges by enabling marketers to precisely measure how marketing drives sales by "closing the loop"—both digital and in-store.

Our platform also helps solve fundamental problems for FIs. Leveraging our powerful predictive analytics, we are able to create compelling cash back offers that have the potential to drive deeper and sustained use of the FI channels, which we believe reduces customer attrition and increases use of the FIs' credit and debit cards. Today, our FI partners include Bank of America, National Association ("Bank of America"), JPMorgan Chase Bank, National Association ("Chase") and Wells Fargo Bank, National Association ("Wells Fargo") in the U.S. and Lloyds Bank plc ("Lloyds") and Santander UK plc ("Santander") in the U.K., as well as many other national and regional financial institutions, including several of the largest bank processors and digital banking providers to reach customers of small and mid-sized FIs. Wells Fargo began a phased launch of our platform in the fourth quarter of 2019 that will continue into the first half of 2020.

We have experienced growth in our revenue since inception. Revenue from sales of Cardlytics Direct, which is net of Consumer Incentives, was $122.4 million, $149.3 million and $210.4 million for 2017, 2018 and 2019, respectively, representing a compound annual growth rate of 40%. During 2017, 2018 and 2019, our average monthly active users ("FI MAUs") were approximately 54.9 million, 65.0 million and 122.6 million, respectively, and our average Cardlytics Direct revenue per user ("ARPU") was $2.23, $2.30 and $1.72, respectively. FI MAU and ARPU are performance metrics defined under the heading "Non-GAAP Measures and Other Performance Metrics" within Item 7 of this Annual Report.

During 2017, 2018 and 2019, our net loss was $19.6 million, $53.0 million and $17.1 million, respectively. Our historical losses have been driven by our substantial investments to expand the use of our platform by both FIs and marketers and include significant non-cash charges. During 2017, 2018 and 2019, our net loss includes stock-based compensation expense of $5.1 million, $26.8 million and $15.9 million, respectively. In 2017, our net loss also includes a $5.0 million non-cash gain related to the change in fair value of convertible promissory notes. In 2018, our net loss also includes a $6.8 million non-cash expense related to the change in fair value of our warrant liabilities, a $2.5 million non-cash expense related to the vesting of warrants issued to an FI partner that accelerated upon our IPO, a $0.9 million loss on extinguishment of debt and a $0.8 million gain related to the renewal of our agreement with an FI partner.

Purchase Intelligence Platform

Data Asset

Purchase data from FIs provides a secure view into where and when consumers are spending their money. Our technology aggregates and analyzes purchase data without any personally identifiable information ("PII") leaving the FI. Our platform analyzes online and in-store transactions across multiple accounts in the United States ("U.S."), including one in two debit and credit card transactions in the U.S. as of December 31, 2019. We believe that access to this purchase data can only be obtained at scale by partnering directly with FIs. This data allows us to serve relevant advertisements to our FIs' customers through our Cardlytics Direct native bank advertising channel. We also leverage the power of purchase intelligence to provide marketers utilizing Cardlytics Direct with valuable insights into the preferences of their actual or potential customers wherever they shop.

Advanced Analytics Capabilities

The advanced analytics we apply to our unique purchase dataset are what transforms it into valuable purchase intelligence. We use sophisticated quantitative methods to quickly access our massive volumes of data and make sense of what has happened—and, importantly, what is likely to happen. Our analytics makes our data actionable, enabling us to develop insights that marketers and FIs rely on to make more informed business decisions and more meaningful customer connections.

We analyze the impact marketing campaigns have on in-store and online sales. Since we are able to measure sales impact, marketers can use our purchase intelligence to optimize future campaigns. Given our granular view into consumer spending across all categories, we can also help marketers identify share shift against their competition, and learn more about where else their customers spend their money.

For FIs, we use our analytics to optimize the offers we display to FI customers within our Cardlytics Direct channel. By assigning relevancy scores to each offer based on what customers are most likely to buy, our platform can present the most relevant offers earlier in customers' mobile and online banking sessions. This increases the likelihood that customers activate, redeem, and earn more cash back on the things they care about most. At the same time, marketers gain more opportunities to get valuable content in front of the right audience.

Distributed Architecture

A crucial aspect of our platform is our patented distributed architecture, which helps to facilitate both the effective delivery of our solutions and the protection of customer PII. Our Offer Placement System ("OPS") and Offer Management System ("OMS") form the core of our advertising platform.

The OPS is either hosted at the FI partner's data center, behind the FI partner's firewall, or hosted by us on behalf of the FI partner. The OPS tracks impressions, engagement, activation and redemptions and is responsible for targeting and presenting offers, which are developed and designed within the OMS. Each of our FI partners has its own instance of the OPS, regardless of where hosted, which consists primarily of a web application and database that interact with the FI's web servers to deliver marketing into the FI's online banking portal. The OPS interfaces with FI systems to receive anonymized purchase data, assign a unique consumer ID to each FI customer, which we call a Cardlytics ID, and aggregate this purchase data. The Cardlytics ID is then used to assign offers, measure redemptions, and in limited cases, validate certain online purchases via anonymously linking to a consumer's digital media presence.

The OMS is hosted in our data centers behind our firewall and is used to create, manage and publish marketing campaigns to each FI partner's OPS. OMS also provides a majority of the functionality for managing configuration settings within each OPS and the transfer of data between Cardlytics and our FI partners.

Solutions

Cardlytics Direct

Through our platform, marketers can deliver advertising content to FI customers in the form of an opportunity to earn rewards, which are funded with a portion of the fees we collect from marketers. Additionally, Cardlytics benefits FI customers by enhancing their experiences by showing them relevant advertisements tailored to their specific needs based on their specific purchase history. We maintain similar platforms in both the U.S. and the United Kingdom ("U.K.").

Cardlytics helps marketers find high potential new customers that are active in their category, but not currently shopping with them, or to grow their business with existing customers. Our marketing is targeted and measured with each individual customer's actual spending information. However, all reporting is aggregated across consumers in our FI network. Unlike many other measurement solutions on which the marketing industry has historically relied, our measurements are not probabilistic or based on models, but are based on actual in-store and online purchases.

The breadth of our FI partners means that we are able to offer marketers the ability to optimize their marketing efforts to reach a large number of consumers through a single point of contact. Cardlytics also offers our FI partners a scalable solution for driving customer loyalty and engagement with little effort on their part, as we handle everything from contracting with marketers and creating, managing and reporting performance of their campaigns to attributing incentives to our FIs' customers.

Other Platform Solutions

Our Other Platform Solutions enabled marketers and marketing service providers to leverage the power of purchase intelligence outside the bank channel. We have shifted the majority of our efforts and resources to support the growth of Cardlytics Direct. As a result, we no longer generate revenue from Other Platform Solutions and do not expect to generate revenue from Other Platform Solutions for the foreseeable future. During 2017, 2018 and 2019, Other Platform Solutions revenue was $8.0 million, $1.4 million and $0.0 million, respectively.

Competitive Strengths

We have the ability to reach and influence real buyers at scale, and measure the true impact of our campaigns on in-store and online sales. We believe that the following strengths provide us with competitive advantages:

- ***Deeply Embedded with FIs***. Our founders were bankers who understood the power of historical purchase data and the needs of marketers. Our platform was architected with our FI partners in mind and is designed to ensure that no PII ever leaves the FI. No FI partner with which we contract directly has unilaterally terminated its use of our platform. We are generally the exclusive provider of native bank channel advertising to our FI partners as mobile and online banking portals are not conducive to supporting marketing content from different vendors. Further, advertising within banks' digital channels requires deep technological integrations, which we believe increases the cost of switching vendors and therefore increases FI partner loyalty to us.
- ***Proprietary Consumer Touchpoints***. With all of our FI partners, we enable marketers to reach consumers in a captive, largely untapped, and digitally engaging environment, when they are thinking about their finances. Given FI requirements, we reach real people in a secured, brand-safe environment. We have access to consumers through both online and mobile channels, and are increasingly reaching them through various other channels, including emails and real-time notifications.
- ***Massive Reach Informed by Purchase Intelligence***. During 2019, our platform analyzed approximately $3.3 trillion in purchases across stores, retail categories, and geographies, both online and in-store. We have access to purchase data on our platform in the form of credit, debit, ACH and bill pay transactions. We provide marketers with the opportunity to leverage this unique data set to precisely reach millions of consumers.
- ***Significant Scale with Marketers and Compelling Return on Advertising Spend ("ROAS")***. We work with marketers across a variety of industry verticals, including national and regional restaurant and retail chains, large providers of cable and satellite television and wireless services, and increasingly, travel and hospitality, grocery, e-commerce and luxury brands. By serving these marketers at scale, we have developed deep insight into consumer behavior, which has allowed us to optimize how we reach and influence likely buyers.

- ***Powerful, Self-Reinforcing Network Effects***. We see significant network effects within our platform. By adding new marketers and increasing the potential incentives provided to our FIs' customers, we are able to increase engagement within our FIs' digital banking channels. This, in turn, attracts more FIs to our platform, adding to our scale, and making our platform more valuable to marketers.
- ***Ability to Improve Marketing***. Consumers spend a vast majority of their purchase dollars in physical stores and online marketers have long sought efficient and effective ways to understand online-to-offline attribution. Likewise, although marketers may have access to data on the purchase behavior of their customers in their stores and on their websites, they lack visibility about these customers' overall purchasing patterns and the purchasing behavior of other likely buyers. Through our proprietary purchase intelligence platform, we reach and influence real buyers at scale and measure the true, incremental impact marketers' campaigns have on in-store and online sales. Our targeting capabilities allow us to tailor the campaigns on our platform to the growth strategies of marketers.
- ***Proprietary Technology Architecture and Advanced Analytics Capabilities***. We have designed our purchase intelligence platform to protect highly sensitive first-party data. Our proprietary, distributed architecture helps facilitate both the effective delivery of our solution and the protection of our FI customers' PII. No PII is shared by the FIs with Cardlytics. Our technologies leverage proprietary algorithms, to process raw purchase data into normalized purchase history useful for marketing and analytics. Our platform also supports integration of data from our FI partners and from third-party sources to enrich the intelligence that we are able to provide. Further, we apply advanced analytics to continuously increase our intelligence capabilities and identify actionable behavior patterns for our marketers. Our advanced analytics capabilities are what transforms our unique purchase dataset into valuable purchase intelligence. We use sophisticated quantitative methods to quickly access our massive volumes of data and make sense of what has happened—and, importantly, what is likely to happen. Our analytics makes our data actionable, enabling us to develop insights that marketers and FIs rely on to make more informed business decisions and more meaningful customer connections.
- ***World-Class Management Team with Unique Combination of Backgrounds and Experiences.*** Our team's extensive experience across banking, technology and marketing is invaluable in our ability to forge relationships with financial and marketing partners, and understand the technical complexities inherent in building a platform that is transforming and disrupting the marketing industry.

Growth Strategies

The principal components of our strategy include the following:

- ***Grow our Business with Marketers.*** While we already work with many large marketers, our platform currently captures only a small portion of their overall marketing spend. We intend to continue to expand our sales and marketing efforts to grow our share of advertising budgets from existing marketers and attract new brands, retailers and service providers. We also intend to grow our business with new marketers in new industry verticals such as travel and hospitality, grocery, e-commerce and luxury brands.
- ***Drive Growth through Existing FI Partners***. We intend to drive revenue growth by continuing to increase customer adoption by improving the effectiveness of FIs' digital channels. The amount of revenue that we generate from the incentive programs of each of our FI partners varies. This variance is typically a result of how long the program has been active, the user interface for the program and the FI's efforts to promote the program. We continually work with FIs to improve their customers' user experience, increase customer awareness, and leverage additional customer outreach channels like email.
- ***Expand the Network of FI Partners***. We will continue to focus on growing our network of FI partners by integrating directly with large national and regional banks and by opportunistically reselling our solution through financial processors and payment networks. Each new FI partner increases the size of our data asset, increasing the value of our platform to both marketers and FIs that are already part of our FI network.
- ***Continue to Innovate and Evolve our Platform***. As we continue to grow our data asset and enhance our platform, we are developing new solutions, greater automation and increasingly sophisticated analytical capabilities. As we have in the past, we plan to continue to work in close collaboration with our FI partners to develop new purchase intelligence-based analytic solutions to enable marketers to make more informed business decisions.

- ***Grow the Platform Through Integrations with Partners***. We intend to continue to partner with other media platforms, marketing technology providers and agencies that can utilize our platform to serve a broad array of customers. To facilitate these partnerships, we intend to focus on continued technological integration of our platform with those of complementary market participants.

FI Partners

We define an FI partner as a separate contracting entity from which we access purchase data to empower our Cardlytics Direct platform either directly or through a third-party intermediary, such as a bank processor, digital banking provider or payment network operator. We generally pay our FI partners an FI Share, which is a negotiated and fixed percentage of our billings to marketers less any Consumer Incentives that we pay to the FIs' customers and certain third-party data costs.

As the amount of revenue that we can generate from marketers with respect to Cardlytics Direct is primarily a function of the number of active users on our FI partners' digital banking platforms, we believe that the number of FI MAUs contributed by any FI partner is indicative of our level of dependence on such FI partner. During 2017, 2018 and 2019, Bank of America contributed 51%, 47%, and 26% of our average FI MAUs, respectively. Chase contributed 9% and 47% of our average FI MAUs in 2018 and 2019, respectively. We anticipate that Chase, Bank of America and, once the phased launch is complete, Wells Fargo will contribute a significant portion of our average FI MAUs for the foreseeable future.

As of December 31, 2019, we had direct contractual relationships with 18 of our FI partners. From inception to date, no FI partner with which we contract directly has unilaterally terminated its use of our solution. FI partners that become part of our network through bank processors and digital banking providers may terminate their relationships with these bank processors and digital banking providers and thereby indirectly terminate their relationships with us.

Agreements with Bank of America

Since November 2010, our relationship with Bank of America has been governed by a General Services Agreement ("GSA") pursuant to which we provide Bank of America with access to Cardlytics Direct and certain other related services, and a related Software License, Customization and Maintenance Agreement, which grants Bank of America the right to use the software underlying Cardlytics Direct. The GSA terminates on November 2021 and may be extended by Bank of America for additional one-year periods.

Pursuant to the GSA with Bank of America, we provide Cardlytics Direct to Bank of America customers which includes forming relationships with participating marketers; obtaining and publishing marketer offers to customers after screening both the marketer and specific advertising content; and monitoring redemption rates with respect to Consumer Incentives offered in Cardlytics Direct campaigns. Although we are primarily responsible for securing marketers to advertise on Cardlytics Direct, Bank of America may likewise secure marketers and has the right to approve all marketer offers to be presented to Bank of America customers on Cardlytics Direct.

Under the GSA, we share the revenue that we generate from the sale of advertising within the Bank of America Cardlytics Direct channel with Bank of America, subject to certain exceptions. The amounts that we pay to Bank of America are reflected as FI Share. During 2017, 2018 and 2019, Bank of America accounted for 63%, 64% and 36% of our aggregate FI Share, respectively. The specific FI Share percentage that we pay is based on whether we or Bank of America have secured the relevant marketer account and other marketer- and transaction-specific factors, provided that we are entitled to retain a minimum percentage of the monthly revenue subject to the GSA.

In connection with entering into certain supplements to the GSA and the related license agreement, in March 2011 we granted to an affiliate of Bank of America a 10-year warrant to purchase up to (i) 78,100 shares of our common stock at an exercise prices of $2.52 per share and (ii) 312,401 shares of our common stock at an exercise price of $6.52 per share. These warrants were net exercised in February 2018, resulting in the issuance of 263,518 shares of our common stock.

Agreements with Chase

In May 2018, we entered into a Master Agreement and Schedule #1 to the Master Agreement (collectively, the “Master Agreement”) with Chase, pursuant to which we rolled out Cardlytics Direct to Chase customers. Under the Master Agreement, we provided Chase with access to Cardlytics Direct through November 2025. Chase may terminate the Master Agreement at any time upon 90 days' written notice.

Under the Master Agreement, we share billings that we generate from the sale of advertising within the Chase Cardlytics Direct channel with Chase, subject to certain exceptions. The amounts that we pay to Chase in excess of Consumer Incentives are reflected as FI Share. The specific billing share percentage that we pay is based on whether we or Chase have secured the relevant marketer account and other marketer- and transaction-specific factors, provided that we are entitled to retain a minimum percentage of the monthly revenue subject to the Master Agreement. Chase accounted for 6% and 42% of FI Share during 2018 and 2019, respectively.

Marketers

We enable marketers and their agencies to efficiently and effectively market to our FIs' customers through Cardlytics Direct. We work with companies across a variety of industries, including national and regional restaurant and retail chains, large providers of cable and satellite television and wireless services, and increasingly, travel and hospitality, grocery, e-commerce and luxury brands. Our top five marketers represented 23%, 23% and 27% of revenue during 2017, 2018 and 2019. No marketer represented a significant concentration of our accounts receivable as of December 31, 2018. One marketer represented 10% of our accounts receivable as of December 31, 2019. One marketer accounted for 11% of our revenue as of December 31, 2019. No marketer accounted for over 10% of revenue during 2017 or 2018.

Sales and Marketing

Our sales teams are focused on expanding our marketer and agency customers and our centralized marketing team is focused on increasing market awareness for Cardlytics through partnerships, public relations, industry events and publications. Our FI-focused account management team is focused on expanding our FI network. During 2017, 2018 and 2019, our total sales and marketing expenses were $31.9 million, $41.9 million and $43.8 million, respectively, representing approximately 24%, 28% and 21% of revenue, respectively.

Marketers

We have dedicated sales teams responsible for establishing relationships with marketers and their agencies. Our sales teams are organized by industry vertical, which include national and regional restaurant and retail chains, large providers of cable and satellite television and wireless services, and increasingly, travel and hospitality, grocery, e-commerce and luxury brands. Each vertical team is led by an experienced sales manager and staffed with sales, sales support and service specialists who have deep domain knowledge and industry operating experience. We also have account managers that manage our customer relationships within each vertical.

Financial Institution Partners

Our efforts expand our FI network are focused on both nurturing our existing banking relationships and cultivating new relationships. Our FI partner sales team is focused on driving FIs to enhance their user interface for our Cardlytics Direct program, otherwise drive increased consumer engagement and encourage adoption of our solution offerings.

Competition

The market for the utilization of purchase intelligence is nascent and we believe we are one of the only companies that can provide purchase intelligence with the scale and the level of granularity that is equivalent to ours. We believe that we are the only company that enables marketing through FI channels at scale. In the future, we may face competition from online retailers, credit card companies, digital publishers and mobile pay providers with access to a substantial amount of consumer purchase data. While we may successfully partner with a wide range of companies that are, to some extent, currently competitive to us, these companies may become more competitive to us in the future. As we introduce new solutions, as our existing solutions evolve and as other companies introduce new products and services, we are likely to face additional competition.

We believe the principal competitive factors in our industry include the following:

- ability to leverage purchase data to inform marketing;
- depth and breadth of relationships with FIs, marketers and their agencies;
- utilizing purchase intelligence to inform marketing spend;
- depth and breadth of, and access to, purchase data;
- effectiveness in increasing return on advertising spend for marketers;
- effectiveness in increasing marketing campaign performance for marketers and their agencies;
- ability to maintain confidentiality and security of FI transaction data;

- transparency into and measurement of marketing performance;
- multi-channel capabilities;
- pricing;
- ROAS;
- brand awareness and reputation;
- ability to continue to innovate; and
- ability to attract, retain and develop leading-edge analytical and technical talent.

We believe that we compete favorably with respect to these factors and that we are well positioned as a leading provider and innovator of purchase intelligence.

Intellectual Property

Our future success and competitive position depend in part on our ability to protect our intellectual property and proprietary technologies. To safeguard these rights, we rely on a combination of patent, trademark, copyright and trade secret laws and contractual protections in the U.S. and other jurisdictions.

As of December 31, 2019, we had four issued patents and are pursuing ten additional patents relating to our software. Our issued patents relate to a distributed system for inserting offers into online banking and expire in October 2028. We cannot assure you that any patents will issue from any patent applications, that patents that issue from such applications will give us the protection that we seek or that any such patents will not be challenged, invalidated, or circumvented. Any patents that may issue in the future from our pending or future patent applications may not provide sufficiently broad protection and may not be enforceable in actions against alleged infringers.

We have registered the “Cardlytics” name and logo in the U.S. and certain other countries. We have registrations and/or pending applications for additional marks in the U.S. and other countries; however, we cannot assure you that any future trademark registrations will be issued for pending or future applications or that any registered trademarks will be enforceable or provide adequate protection of our proprietary rights.

We also license software from third parties for integration into our offerings, including open source software and other software available on commercially reasonable terms. We cannot assure you that such third parties will maintain such software or continue to make it available.

We are the registered holder of a variety of domestic and international domain names that include cardlytics.com and similar variations on that name.

In order to protect our unpatented proprietary technologies and processes, we rely on trade secret laws and confidentiality agreements with our employees, consultants, financial institution partners, marketers, vendors and others. Despite our efforts to protect our proprietary technology and trade secrets, unauthorized parties may attempt to misappropriate, reverse engineer or otherwise obtain and use them. In addition, others may independently discover our trade secrets, in which case we would not be able to assert trade secret rights, or develop similar technologies and processes. Further, the contractual provisions that we enter into may not prevent unauthorized use or disclosure of our proprietary technology or intellectual property rights and may not provide an adequate remedy in the event of unauthorized use or disclosure of our proprietary technology or intellectual property rights. If we become more successful, we believe that competitors will be more likely to try to develop solutions and services that are similar to ours and that may infringe our proprietary rights. It may also be more likely that competitors or other third parties will claim that our platform infringes their proprietary rights.

Patent and other intellectual property disputes are common in our industry and we have been involved in such disputes from time to time in the ordinary course of our business. Some companies, including some of our competitors, own large numbers of patents, copyrights and trademarks, which they may use to assert claims against us. Third parties may in the future assert claims of infringement, misappropriation or other violations of intellectual property rights against us. They may also assert such claims against our FI partners, which we typically indemnify against such claims. As the numbers of products and competitors in our market increase and overlaps occur, claims of infringement, misappropriation and other violations of intellectual property rights may increase. Any claim of infringement, misappropriation or other violation of intellectual property rights by a third-party, even those without merit, could cause us to incur substantial costs defending against the claim and could distract our management from our business.

Privacy and Security

We have architected privacy and security into our systems and practices. A critical part of our strategy involves not collecting, maintaining or using sensitive information, such as social security numbers, credit card numbers, financial account information or medical records. We currently do not receive any PII from our FI partners. We only target marketing against anonymized data. This approach to privacy is intended to protect consumers. Our privacy and security standards have also been designed and implemented to meet the requirements and safeguard the reputations of our FI partners and marketers, many of which are large, multinational corporations. These customers frequently audit our practices and engage in detailed assessments of our infrastructure.

Despite the fact that we do not receive any PII from FIs, privacy and security are among our highest priorities and we commit significant resources to protecting the data that we receive. We have implemented, assess on an ongoing basis, and, when necessary, upgrade our physical, procedural and technical controls. We also take steps to impose compliance with these controls on our service providers via contract.

We have implemented a number of security controls. Our security controls have been audited and certified by third parties using standards which include SSAE 18, SQCS and SAS. Sensitive data is subject to encryption, anonymization, or de-identification depending on the use case and risk profile. We enhance network security through measures such as network segmentation, firewalls and network and host based intrusion detection at critical network aggregation and ingress/egress points.

A cornerstone of our practices is transparency in data use and consumer choice. Our privacy policy outlines the types of data we collect and how we use it. Most of our FI partners maintain different types of "opt-out” features for any consumer wishing to opt out of Cardlytics Direct.

Outside of the U.S., our privacy and data handling practices are subject to regulation by data protection authorities and other regulators in the countries in which we do business, which may be more restrictive than the requirements that we are subject to in the U.S.

Seasonality

Our cash flows from operations vary from quarter to quarter, largely due to the seasonal nature of our marketers’ advertising spending. Many marketers tend to devote a significant portion of their marketing budgets to the fourth quarter of the calendar year to coincide with consumer holiday spending and to reduce spend in the first quarter of the calendar year.

Employees

As of December 31, 2019, we had 432 full-time employees, including 84 in delivery, 186 in sales and marketing, 109 in research and development and 53 in general and administrative. None of our employees are covered by collective bargaining agreements. We believe our employee relations are good and we have not experienced any work stoppages.

Corporate Information

Cardlytics, Inc. was initially incorporated under the laws of the State of Delaware in June 2008. Our principal executive offices are located at 675 Ponce de Leon Avenue NE, Suite 6000, Atlanta, Georgia 30308. Our telephone number is (888) 798-5802. Our website address is www.cardlytics.com. We completed our IPO in February 2018 and our common stock is listed on the Nasdaq Global Market under the symbol “CDLX.” “Cardlytics,” the Cardlytics logo and other trademarks or service marks of Cardlytics, Inc. appearing in this Annual Report on Form 10-K are the property of Cardlytics, Inc. This Annual Report on Form 10-K contains additional trade names, trademarks and service marks of others, which are the property of their respective owners. Solely for convenience, trademarks and trade names referred to in this Annual Report may appear without the ® or TM symbols.

Available Information

Our website address is www.cardlytics.com and our investor relations website is located at http://ir.cardlytics.com/. Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Sections 13(a) and 15(d) of the Exchange Act, are available free of charge on our investor relations website as soon as reasonably practicable after we electronically file such material with, or furnish it to, the Securities and Exchange Commission ("SEC"). Additionally, the SEC maintains an internet site that contains reports, proxy and information statements and other information. The SEC's website address is www.sec.gov.

The contents of our websites are not intended to be incorporated by reference into this Annual Report on Form 10-K or in any other report or document we file with the SEC, and any references to our websites are intended to be inactive textual references only.

ITEM 1A. RISK FACTORS

Investing in our common stock involves a high degree of risk. You should consider carefully the risks and uncertainties described below, together with all of the other information contained in this report, and in our other public filings in evaluating our business. Our business, financial condition, operating results, cash flow, and prospects could be materially and adversely affected by any of these risks or uncertainties. In that event, the market price of our common stock could decline and you could lose part or all of your investment.

Our Business and Industry

We may not be able to sustain our revenue and billings growth rate in the future.

Our revenue increased by 16% from $130.4 million in 2017 to $150.7 million in 2018. Our revenue increased 40% from $150.7 million in 2018 to $210.4 million in 2019. Our billings increased by 14% from $191.5 million in 2017 to $219.0 million in 2018. Our billings increased 44% from $219.0 million in 2018 to $316.1 million in 2019. We may not be able to sustain revenue and billings growth consistent with our recent history or at all. You should not consider our revenue and billings growth in recent periods as indicative of our future performance. As we grow our business, we expect our revenue and billings growth rates to slow in future periods due to a number of factors, which may include slowing demand for our solutions, increasing competition, decreasing growth of our overall market, our inability to engage and retain a sufficient number of marketers or banks and credit unions, which we refer to as FIs, or our failure, for any reason, to capitalize on growth opportunities. If we are unable to maintain consistent revenue, revenue growth or billings growth, our stock price could be volatile, and it may be difficult for us to achieve and maintain profitability.

We are dependent upon Cardlytics Direct.

All of our revenue and billings during 2019 was derived from sales of Cardlytics Direct. We have historically derived substantially all of our revenue and billings from Cardlytics Direct and expect to continue to derive substantially all of our future revenue and billings from sales of Cardlytics Direct for the foreseeable future. Our operating results could suffer due to:

- lack of continued participation by FI partners in our network or our failure to attract new FI partners;
- any decline in demand for Cardlytics Direct by marketers or their agencies;
- failure by our FI partners to increase engagement with our solutions within their customer bases, improve their customers' user experience, increase customer awareness, leverage additional customer outreach channels like email or otherwise promote our incentive programs on their websites and mobile applications, including by making the programs difficult to access or otherwise diminishing their prominence;
- our failure to offer compelling incentives to our FIs' customers;
- FI partners may elect to use their FI share to fund their Consumer Incentives;
- the introduction by competitors of products and technologies that serve as a replacement or substitute for, or represent an improvement over, Cardlytics Direct;
- FIs developing their own technology to support purchase intelligence marketing or other incentive programs;
- technological innovations or new standards that Cardlytics Direct does not address; and
- sensitivity to current or future prices offered by us or competing solutions.

In addition, we are required to pay Consumer Incentives with respect to a majority of our Cardlytics Direct marketing campaigns regardless of whether the amount of such Consumer Incentives exceeds the amount of billings that we are paid by the applicable marketer. Further, we are often required to pay such Consumer Incentives before we receive payment from the applicable marketer. Accordingly, to the extent that the amount of Consumer Incentives that we are required to pay materially exceeds the billings that we receive or we encounter any significant failure to ultimately collect payment, our business, financial condition and operating results could be adversely affected.

If we are unable to grow our revenue and billings from sales of Cardlytics Direct, our business and operating results would be harmed.

We are substantially dependent on Chase, Bank of America and a limited number of other FI partners.

We require participation from our FI partners in Cardlytics Direct and access to their purchase data in order to offer our solutions to marketers and their agencies. We must have FI partners with a sufficient number of customers and levels of customer engagement to ensure that we have robust purchase data and marketing space to support a broad array of incentive programs for marketers.

As the amount of revenue that we can generate from marketers with respect to Cardlytics Direct is primarily a function of the number of active users on our FI partners' digital banking platforms, we believe that the number FI MAU contributed by any FI partner is indicative of our level of dependence on such FI partner. During 2017, 2018, and 2019, Bank of America contributed 51%, 47% and 26% of our average FI MAUs, respectively. During 2018 and 2019, Chase contributed 9% and 47% of our average FI MAUs, respectively. We anticipate that Chase, Bank of America and, once the phased launch is complete, Wells Fargo will contribute a significant portion of our average FI MAUs for the foreseeable future.

In addition, we pay most of our FI partners an FI Share, which is a negotiated and fixed percentage of our billings to marketers less any Consumer Incentives that we pay to the FIs' customers and certain third-party data costs. During 2017, 2018 and 2019, Bank of America accounted for 63%, 64% and 36% of the total FI Share we paid to our FI partners, respectively. During 2018 and 2019, Chase accounted for 6% and 42% of the total FI Share we paid to our FI partners, respectively. We anticipate that Bank of America, Chase and, once the phased launch is complete, Wells Fargo, will receive a significant portion of our FI Share for the foreseeable future.

Our agreements with a substantial majority of our FI partners have three to seven year terms but are generally terminable by the FI partner on 90 days or less prior notice. If an FI partner terminates its agreement with us, we would lose that FI as a source of purchase data and online banking customers. Our FI partners may elect to withhold from us or limit the use of their purchase data for many reasons, including:

- a change in the business strategy;
- if there is a competitive reason to do so;
- if new technical requirements arise;
- consumer concern over use of purchase data;
- if they choose to develop and use in-house solutions or use a competitive solution in lieu of our solutions; and
- if legislation is passed restricting the dissemination, or our use, of the data that is currently provided to us or if judicial interpretations result in similar limitations.

To the extent that we breach or are alleged to have breached the terms of our agreement with any FI partner, or a disagreement arises with an FI partner regarding the interpretation of our contractual arrangements, which has occurred in the past with respect to Bank of America (although Bank of America granted us a waiver) and may occur again in the future, such FI partner may be more likely to cease providing us data or to terminate its agreement with us. The loss of Bank of America, Chase or any other significant FI partner would significantly harm our business, results of operations and financial conditions.

Delays in the continued phased rollout of Cardlytics Direct at Wells Fargo may result in our failure to meet expectations with respect to future operating results.

In August 2018, we signed a four-year agreement, with the initial term expiring on July 1, 2022, for a national launch of Cardlytics Direct with Wells Fargo. Wells Fargo began a phased launch of the Cardlytics Direct program in the fourth quarter of 2019 that will continue into the first half of 2020. The remaining deployment at Wells Fargo may require significant investment in our systems and infrastructure, and we may encounter unforeseen technological issues which could cause delays in the continued phased rollout or limitations to the scope of the rollout. In addition, Wells Fargo may terminate the agreement at any time upon 180 days' written notice. If the remaining deployment at Wells Fargo is delayed, limited or terminated, our business, financial condition and operating results could be harmed.

Bringing new FI partners into our network may impede our ability to accurately forecast the performance of our network.

Bringing new FI partners, such as Wells Fargo, into our network may impede our ability to accurately predict how certain marketing campaigns will perform, and thus may impede our ability to accurately forecast the performance of our network. Such inaccurate predictions could result in marketing campaigns underperforming, which impact the total fees we can collect from marketers, or overperforming, which may result is us paying certain Consumer Incentives to consumers without adequate compensation from the marketers. The amount of time it will take us to be able to understand the impact of a new FI partner on our network is uncertain and difficult to predict. Additionally, our understanding of the impact of any given FI is subject to change at any time, as such understanding can be impacted by factors such as changes to an FI’s business strategy, changes to an FI’s user interface, or changes in the behavior or makeup of an FI's consumer base.

If we fail to maintain our relationships with current FI partners or attract new FI partners, we may not be able to sufficiently grow our revenue, which could significantly harm our business, results of operations and financial condition.

Our ability to grow our revenue depends on our ability to maintain our relationships with current FI partners and attract new FI partners. A significant percentage of consumer credit and debit card spending is concentrated with the 15 largest FIs in the U.S., five of which are currently part of our network, while the balance of card spending is spread across thousands of smaller FIs. Accordingly, our ability to efficiently grow our revenue will specifically depend on our ability to maintain our relationships with the large FIs that are currently part of our network and establish relationships with the large FIs that are not currently part of our network. In addition, we must continue to maintain our relationships with our existing bank processor and digital banking provider partners and attract new such partners because these partners aggregate smaller FIs into our network. We have in the past and may in the future be unsuccessful in attempts to establish and maintain relationships with large FIs. If we are unable to maintain our relationships with current FI partners and attract new FI partners, maintain our relationships with our existing bank processor and digital banking provider partners or attract new bank processor and digital provider partners, our business, results of operations and financial condition would be significantly harmed and we may fail to capture a material portion of the native bank advertising market opportunity.

Our future success will depend, in part, on our ability to expand into new industry verticals.

We have historically generated a substantial majority of our revenue from marketers in the restaurant, brick and mortar retail, telecommunications and cable industries, and have recently entered new verticals such as travel and hospitality, grocery, e-commerce and luxury brands, and believe that our future success will depend, in part, on our ability to expand adoption of our solutions in new industry verticals. As we market to a wider group of potential marketers and their agencies, we will need to adapt our marketing strategies to meet the concerns and expectations of customers in these new industry verticals. Our success in expanding sales of our solutions to marketers in new industry verticals will depend on a variety of factors, including our ability to:

- tailor our solutions so that they that are attractive to businesses in such industries;
- hire personnel with relevant industry-vertical experience to lead sales and services teams; and
- develop sufficient expertise in such industries so that we can provide effective and meaningful marketing programs and analytics.

If we are unable to successfully market our solutions to appeal to marketers and their agencies in new industries, we may not be able to achieve our growth or business objectives.

We derive a material portion of our revenue from a limited number of marketers, and the loss of one or more of these marketers could adversely impact our business, results of operations and financial conditions.

Our marketer base is concentrated with our top five marketers representing 23%, 23% and 27% of revenue for 2017, 2018 and 2019, respectively. We do not have long-term commitments from most of these marketers. If we were to lose one or more of our significant marketers, our revenue may significantly decline. In addition, revenue from significant marketers may vary from period-to-period depending on the timing or volume of marketing spend. The loss of one or more of our significant marketers could adversely affect our business, results of operations and financial conditions.

Further, our top five marketers represented 24%, 23% and 27% of accounts receivable as of December 31, 2017, 2018 and 2019, respectively. Accordingly, our credit risk is concentrated among a limited number of marketers and the failure of any significant marketer to satisfy its obligations to us, on a timely basis or at all, could adversely affect our business, results of operations and financial conditions.

If we do not effectively grow and train our sales team, we may be unable to add new marketers or increase sales to our existing marketers and our business will be adversely affected.

We continue to be substantially dependent on our sales team to obtain new marketers and to drive sales with respect to our existing marketers. We believe that the characteristics and skills of the best salespeople for our solutions are still being defined, as our market is relatively new. Further, we believe that there is, and will continue to be, significant competition for sales personnel with the skills and technical knowledge that we require. Our ability to achieve significant revenue growth will depend, in large part, on our success in recruiting, training, integrating and retaining sufficient numbers of sales personnel to support our growth. New hires require significant training and it may take significant time before they achieve full productivity. Our recent hires and planned hires may not become productive as quickly as we expect, and we may be unable to hire or retain sufficient numbers of qualified individuals in the markets where we do business or plan to do business. In addition, as we continue to grow, a large percentage of our sales team will be new to our company and our solutions. If we are unable to hire and train sufficient numbers of effective sales personnel, or the sales personnel are not successful in obtaining new marketers or increasing sales to our existing marketers, our business will be adversely affected.

A breach of the security of our systems could result in a disruption of our operations, or a third-party's entry into our FI partners' systems, which would be detrimental to our business, financial condition and operating results.

We leverage our FI partners' purchase data and infrastructures to deliver our solutions. We do not currently receive any personally identifiable information ("PII") from our FI partners, although we may obtain PII in the future as our business evolves. However, because of the interconnected nature of our infrastructure with that of our FI partners, there is a risk that third parties may attempt to gain access to our systems, or our FI partners' systems through our systems, for the purpose of stealing sensitive or proprietary data or disrupting our or their respective operations. In turn, we may be a more visible target for cyberattacks and/or physical breaches of our databases or data centers, and we may in the future suffer from such attacks or breaches.

Current or future criminal capabilities, discovery of existing or new vulnerabilities in our systems and attempts to exploit those vulnerabilities or other developments may compromise or breach the technology protecting our systems. Due to a variety of both internal and external factors, including defects or misconfigurations of our technology, our services could become vulnerable to security incidents (both from intentional attacks and accidental causes) that cause them to fail to secure networks and detect and block attacks. In the event that our protection efforts are unsuccessful and our systems are compromised such that a third-party gains entry to our or any of our FI partners' systems, we could suffer substantial harm. A security breach could result in operational or administrative disruptions, or impair our ability to meet our marketers' requirements, which could result in decreased revenue. Also, our reputation could suffer irreparable harm, causing our current and prospective marketers and FI partners to decline to use our solutions in the future. Further, we could be forced to expend significant financial and operational resources in response to a security breach, including repairing system damage, increasing cybersecurity protection costs by deploying additional personnel and protection technologies, dealing with regulatory scrutiny, and litigating and resolving legal claims, all of which could divert resources and the attention of our management and key personnel away from our business operations. In any event, a breach of the security of our systems or data could materially harm our business, financial condition and operating results.

If we fail to generate sufficient revenue to offset our contractual commitments to FIs, our business, results of operations and financial conditions could be harmed.

We have a minimum FI Share commitment with a certain FI partner totaling $10.0 million over a 12-month period following the completion of certain milestones by the FI partner, which were not met as of December 31, 2019. The timing of the completion of the milestones is uncertain; however, we do not currently believe the FI partner will complete the milestones in 2020. Any expected shortfall will be accrued during the 12-month period following the completion of the milestones.

In 2017, we paid certain of our FI partners an aggregate of approximately $2.6 million related to 2016 FI Share commitments in excess of the amount of FI Share otherwise payable to such FI partners in the absence of such commitments, and it is possible that we may be required to fund similar shortfalls in future periods. In certain cases in the past, we have also been responsible for funding certain development costs for user interface enhancements and implementation costs on behalf of FIs. These agreements allowed for reimbursements to us through future reductions to FI Share. During 2018, development payments to a certain FI partner totaled $9.3 million, which were offset by recoveries through FI Share payment reductions of $4.6 million in 2019.

To the extent that we are unable to generate revenue from marketers sufficient to offset these FI Share commitments and other obligations, our business, results of operations and financial conditions could be harmed.

Bringing new FI partners into our network can require considerable time and expense and can be long and unpredictable.

Our FI partners and FI partner prospects engage in highly regulated businesses, are often slow to adopt technological innovation and have rigorous standards with respect to providing third parties, like us, with access to their data. Our operating results depend in part on expanding our FI network to maintain and enhance the scale of our solutions. The length of time that it takes to add an FI partner to our network, from initial evaluation to integration into our network, varies substantially from FI to FI and may take several years. Our sales and integration cycle with respect to our FI partners is long and unpredictable, requires considerable time and expense and may not ultimately be successful. It is difficult to predict exactly when, or even if, a new FI partner will join our network and we may not generate revenue from a new FI partner in the same period as we incurred the costs associated with acquiring such FI partner, or at all. Once an FI partner has agreed to work with us, it may take a lengthy period of time for the implementation of our solutions to be prioritized and integrated into the FI partner's infrastructure. Because a substantial portion of our expenses are relatively fixed in the short-term, our operating results will suffer if revenue falls below our expectations in a particular quarter, which could cause the price of our stock to decline. Ultimately, if additions to our FI network are not realized in the time period expected or not realized at all, or if an FI partner terminates its agreement with us, our business, financial condition and operating results could be adversely affected.

Our quarterly operating results may vary from period to period, which could result in our failure to meet expectations with respect to operating results and cause the trading price of our stock to decline.

Our operating results have historically fluctuated and our future operating results may vary significantly from quarter to quarter due to a variety of factors, many of which are beyond our control. Period-to-period comparisons of our operating results should not be relied upon as an indication of our future performance. Given our relatively short operating history and the rapidly evolving purchase intelligence industry, our historical operating results may not be useful in predicting our future operating results.

Factors that may impact our quarterly operating results include the factors set forth in this "Risk Factors" section, as well as the following:

- our ability to attract and retain marketers, FI partners and bank processor and digital banking provider partners;
- the amount and timing of revenue, operating costs and capital expenditures related to the operations and expansion of our business, particularly with respect to our efforts to attract new FI partners to our network;
- the revenue mix revenue generated from our operations in the U.S. and U.K.;
- delays in the continued phased rollout of Wells Fargo;
- decisions made by our FI partners to increase Consumer Incentives.
- FI partners may elect to use their FI share to fund their Consumer Incentives;
- changes in the economic prospects of marketers, the industries or verticals that we primarily serve, or the economy generally, which could alter marketers' spending priorities or budgets;
- the termination or alteration of relationships with our FI partners in a manner that impacts ongoing or future marketing campaigns;

- reputational harm;
- the amount and timing of expenses required to grow our business, including the timing of our payments of FI Share and FI Share commitments as compared to the timing of our receipt of payments from our marketers;
- changes in demand for our solutions or similar solutions;
- seasonal trends in the marketing industry, including concentration of marketer spend in the fourth quarter of the calendar year and declines in marketer spend in the first quarter of the calendar year;
- competitive market position, including changes in the pricing policies of our competitors;
- exposure related to our international operations and foreign currency exchange rates;
- expenses associated with items such as litigation, regulatory changes, cyberattacks or security breaches;
- the introduction of new technologies, products or solution offerings by competitors; and
- costs related to acquisitions of other businesses or technologies.

Each factor above or discussed elsewhere in this "Risk Factors" section" or the cumulative effect of some of these factors may result in fluctuations in our operating results. This variability and unpredictability could result in our failure to meet expectations with respect to operating results, or those of securities analysts or investors, for a particular period. If we fail to meet or exceed expectations for our operating results for these or any other reasons, the market price of our stock could fall and we could face costly lawsuits, including securities class action suits.

We have a short operating history, which makes it difficult to evaluate our future prospects and may increase the risk that we will not be successful.

We have a relatively short operating history, which limits our ability to forecast our future operating results and subjects us to a number of uncertainties, including with respect to our ability to plan for and model future growth. We have encountered and will continue to encounter risks and uncertainties frequently experienced by growing companies in developing industries. If our assumptions regarding these uncertainties, which we use to manage our business, are incorrect or change in response to changes in our markets, or if we do not address these risks successfully, our operating and financial results could differ materially from our expectations, our business could suffer and our stock price could decline. Any success that we may experience in the future will depend in large part on our ability to, among other things:

- maintain and expand our network of FI partners.
- build and maintain long-term relationships with marketers and their agencies;
- develop and offer competitive solutions that meet the evolving needs of marketers;
- expand our relationships with FI partners to enable us to use their purchase data for new solutions;
- improve the performance and capabilities of our solutions;
- successfully expand our business;
- successfully compete with other companies that are currently in, or may in the future enter, the markets for our solutions;
- increase market awareness of our solutions and enhance our brand;
- manage increased operating expenses as we continue to invest in our infrastructure to scale our business and operate as a public company; and
- attract, hire, train, integrate and retain qualified and motivated employees.

Any failure of our FI partners to effectively deliver and promote the online incentive programs that comprise Cardlytics Direct could materially and adversely affect our business.

We have spent the last several years and significant resources building out technology integrations with our FI partners to facilitate the delivery of incentive programs to our FIs' customers and measuring those customers subsequent in-store or digital spending. We are also reliant on our network of FI partners to promote their digital incentive programs, increase customer awareness and leverage additional customer outreach channels like email, all of which can increase customer engagement, as well as expand our network of FI partners. We believe that key factors in the success and effectiveness of our incentive program include the level of accessibility and prominence of the program on the FI partners' website and mobile applications, as well as the user interface through which a customer is presented with marketing content. In certain cases, we have little control over the prominence of the incentive program and design of the user interface that our FI partners choose to use. To the extent that our FI partners deemphasize incentive programs, make incentive programs difficult to locate on their website and/or mobile applications and/or fail to provide a user interface that is appealing to FIs' customers, FIs' customers may be less likely to engage with the incentive programs, which could negatively impact the amount of fees that we are able to charge our marketer customers in connection with marketing campaigns, and, therefore, our revenue. In addition, a failure by FIs to properly deliver or sufficiently promote marketing campaigns would reduce the efficacy of our solutions and impair our ability to attract and retain marketers and their agencies. As a result, the revenue we generate from our Cardlytics Direct solution may be adversely affected, which would materially and adversely affect our business, financial condition and results of operations.

Our business could be adversely affected if marketers or their agencies are not satisfied with our solutions or our systems and infrastructure fail to meet their needs.

We derive nearly all of our revenue from marketers and their agencies. Accordingly, our business depends on our ability to satisfy marketers and their agencies with respect to their marketing needs. With respect to Cardlytics Direct, we rely on our Offer Management System ("OMS") to facilitate the creation of marketing campaigns and evaluate the results of campaigns, and our Offer Placement System ("OPS"), to track impressions, engagement, activation and redemptions and to target consumers and present offers. Any failure of, or delays in the performance of, our systems, including without limitation our OMS or OPS, could cause service interruptions or impaired system performance. Such failures in our systems could cause us to maximize our earning potential with respect to any given marketing campaign. Such failures in our systems could also cause us to over-run on campaigns, thus committing us to a higher redemptions, which may negatively affect the profitability of the affected campaigns. If sustained or repeated, these performance issues could adversely affect our business, financial condition or operating results, and further reduce the attractiveness of our solutions to new and existing marketers and cause existing marketers to reduce or cease using our solutions, which could also adversely affect our business, financial condition or operating results. In addition, negative publicity resulting from issues related to our marketer relationships, regardless of accuracy, may damage our business by adversely affecting our ability to attract new marketers or marketing agencies and maintain and expand our relationships with existing marketers.

If the use of our solutions increases, or if marketers or FI partners demand more advanced features from our solutions, we will need to devote additional resources to improving our solutions, and we also may need to expand our technical infrastructure at a more rapid pace than we have in the past. This may involve purchasing or leasing data center capacity and equipment, upgrading our technology and infrastructure and introducing new or enhanced solutions. It may take a significant amount of time to plan, develop and test changes to our infrastructure, and we may not be able to accurately forecast demand or predict the results we will realize from such improvements. There are inherent risks associated with changing, upgrading, improving and expanding our technical infrastructure. Any failure of our solutions to operate effectively with future infrastructure and technologies could reduce the demand for our solutions, resulting in marketer or FI partner dissatisfaction and harm to our business. Also, any expansion of our infrastructure would likely require that we appropriately scale our internal business systems and services organization, including without limitation implementation and support services, to serve our growing marketer base. If we are unable to respond to these changes or fully and effectively implement them in a cost-effective and timely manner, our solutions may become ineffective, we may lose marketers and/or FI partners, and our business, financial condition and operating results may be negatively impacted.

We generally do not have long-term commitments from marketers, and if we are unable to retain and increase sales of our solutions to marketers and their agencies or attract new marketers and their agencies, our business, financial condition and operating results would be adversely affected.

Most marketers do business with us by placing insertion orders for particular marketing campaigns, either directly or through marketing agencies that act on their behalf. We often do not have any commitment from a marketer beyond the campaign governed by a particular insertion order, and we frequently must compete to win further business from a marketer. In most circumstances, our insertion orders may be canceled by marketers or their marketing agencies prior to the completion of all the campaigns contemplated in the insertion orders; provided that marketers or their agencies are required to pay us for services performed prior to cancellation. As a result, our success is dependent upon our ability to outperform our competitors and win repeat business from existing marketers, while continually expanding the number of marketers for which we provide services. To maintain and increase our revenue, we must encourage existing marketers and their agencies to increase their use of our solutions and add new marketers. Many marketers and marketing agencies, however, have only just begun using our solutions for a limited number of marketing campaigns, and our future revenue growth will depend heavily on these marketers and marketing agencies expanding their use of our solutions across campaigns and otherwise increasing their spending with us. Even if we are successful in convincing marketers and their agencies to use our solutions, it may take several months or years for them to meaningfully increase the amount that they spend with us. Further, larger marketers with multiple brands typically have individual marketing budgets and marketing decision makers for each of their brands, and we may not be able to leverage our success in securing a portion of the marketing budget of one or more of a marketer's brands into additional business with other brands. Moreover, marketers may place internal limits on the allocation of their marketing budgets to digital marketing, to particular campaigns, to a particular provider or for other reasons. In addition, we are reliant on our FI network to have sufficient marketing inventory within Cardlytics Direct to place the full volume of advertisements contracted for by our marketers and their agencies. Any failure to meet these demands may hamper the growth of our business and the attractiveness of our solutions.

Our ability to retain and increase sales of our solutions and attract new marketers and their agencies may be adversely affected by competitive offerings or marketing methods that are lower priced or perceived as more effective than our solutions. Larger marketers may themselves have a substantial amount of purchase data and they may also seek to augment their own purchase data with additional purchase, impression and/or demographic data acquired from third-party data providers, which may allow them to develop, individually or with partners, internal targeting and measurement capabilities.

Because many of our agreement are not long-term with our marketers or their agencies, we may not be able to accurately predict future revenue streams, and we cannot guarantee that our current marketers will continue to use our solutions, or that we will be able to replace departing marketers with new marketers that provide us with comparable revenue. If we are unable to retain and increase sales of our solutions to existing marketers and their agencies or attract new marketers and their agencies for any of the reasons above or for other reasons, our business, financial condition and operating results would be adversely affected.

We have a history of losses and may not achieve profitability in the future.

We have incurred net losses since inception and expect to incur net losses in the future. We incurred net losses of $19.6 million, $53.0 million and $17.1 million in 2017, 2018 and the 2019, respectively. As of December 31, 2019, we had an accumulated deficit of $338.6 million. We have never achieved profitability on an annual basis and we do not know if we will be able to achieve or sustain profitability. Although our revenue has increased substantially in recent periods, we also do not expect to maintain this rate of revenue growth. We plan to continue to invest in our research and development and sales and marketing efforts, and we anticipate that our operating expenses will continue to increase as we scale our business and expand our operations. We also expect our general and administrative expense to increase as a result of our growth and operating as a public company. Our ability to achieve and sustain profitability is based on numerous factors, many of which are beyond our control. We may never be able to generate sufficient revenue to achieve or sustain profitability.

We operate in an emerging industry and future demand and market acceptance for our solutions is uncertain.

We believe that our future success will depend in large part on the growth, if any, in the market for purchase intelligence. Utilization of consumer purchase data to inform marketing is an emerging industry and future demand and market acceptance for this type of marketing is uncertain. If the market for purchase intelligence does not continue to develop or develops more slowly than we expect, our business, financial condition and operating results could be harmed.

The market in which we participate is competitive and we may not be able to compete successfully with our current or future competitors.

The market for purchase intelligence is nascent and we believe that there is no one company with which we compete directly across our range of solutions. With respect to Cardlytics Direct, we believe that we are the only company that enables marketing through FI channels at scale. In the future, we may face competition from online retailers, credit card companies, established enterprise software companies, advertising and marketing agencies, digital publishers and mobile pay providers with access to a substantial amount of consumer purchase data. While we may successfully partner with a wide range of companies that are to some extent currently competitive to us, these companies may become more competitive to us in the future. As we introduce new solutions, as our existing solutions evolve and as other companies introduce new products and solutions, we are likely to face additional competition.

Some of our actual and potential competitors may have advantages over us, such as longer operating histories, significantly greater financial, technical, marketing or other resources, stronger brand and recognition, larger intellectual property portfolios and broader global distribution and presence. In addition, our industry is evolving rapidly and is becoming increasingly competitive. Larger and more established companies may focus on purchase intelligence marketing and could directly compete with us. Smaller companies could also launch new products and services that we do not offer and that could gain market acceptance quickly.

Our competitors may be able to respond more quickly and effectively than we can to new or changing opportunities, technologies, standards or customer requirements. Larger competitors are also often in a better position to withstand any significant reduction in capital spending, and will therefore not be as susceptible to economic downturns. In addition, current or potential competitors may be acquired by third parties with greater available resources. As a result of such relationships and acquisitions, our current or potential competitors might be able to adapt more quickly to new technologies and customer needs, devote greater resources to the promotion or sale of their products and services, initiate or withstand substantial price competition, take advantage of other opportunities more readily or develop and expand their product and service offerings more quickly than we do. For all of these reasons, we may not be able to compete successfully against our current or future competitors.

If we fail to identify and respond effectively to rapidly changing technology and industry needs, our solutions may become less competitive or obsolete.

Our future success depends on our ability to adapt and innovate. To attract, retain and increase new marketers and FI partners, we will need to expand and enhance our solutions to meet changing needs, add functionality and address technological advancements. If we are unable to adapt our solutions to evolving trends in the marketing industry, if we are unable to properly identify and prioritize appropriate solution development projects or if we fail to develop and effectively market new solutions or enhance existing solutions to address the needs of existing and new marketers and FI partners, we may not be able to achieve or maintain adequate market acceptance and penetration of our solutions, and our solutions may become less competitive or obsolete.

In addition, new, more effective or less costly technologies may emerge that use data sources that we do not have access to, that use entirely different analytical methodologies than we do or that use other indicators of purchases by consumers. If existing and new marketers and their agencies perceive greater value in alternative technologies or data sources, our ability to compete for marketers and their agencies could be materially and adversely affected.

A number of factors could impair our ability to collect the significant amounts of data that we use to deliver our solutions.

Our ability to collect and use data may be restricted or prevented by a number of other factors, including:

- the failure of our network or software systems, or the network or software systems of our FI partners;
- decisions by our FI partners to restrict our ability to collect data from them (which decision they may make at their discretion) or to refuse to implement the mechanisms that we request to ensure compliance with our legal obligations or technical requirements;
- decisions by our FI partners to limit our ability to use their purchase data outside of the applicable banking channel;
- decisions by our FIs’ customers to opt out of the incentive program or to use technology, such as browser settings, that reduces our ability to deliver relevant advertisements;
- interruptions, failures or defects in our or our FI partners’ data collection, mining, analysis and storage systems;
- changes in regulations impacting the collection and use of data;

- changes in browser or device functionality and settings, and other new technologies, which impact our FI partners’ ability to collect and/or share data about their customers; and
- changes in international laws, rules, regulations and industry standards or increased enforcement of international laws, rules, regulations, and industry standards.

Any of the above-described limitations on our ability to successfully collect, utilize and leverage data could also materially impair the optimal performance of our solutions and severely limit our ability to target consumers or bill marketers for our services, which would harm our business, financial condition and operating results.

The efficacy of some of our solutions depends upon third-party data providers.

We rely on several third parties to assist us in matching our anonymized identifiers, which we call Cardlytics IDs, with third-party identifiers. This matching process enables us to use purchase intelligence to measure in-store and online campaign sales impact or provide marketers with valuable visibility into the behaviors of current or prospective customers both within and outside the context of their marketing efforts. If any of these key data providers were to withdraw or withhold their identifiers from us, our ability to provide our solutions could be adversely affected. Replacements for these third-party identifiers may not be available in a timely manner or under economically beneficial terms, or at all.

Defects, errors or delays in our solutions could harm our reputation, which would harm our operating results.

The technology underlying our solutions may contain material defects or errors that can adversely affect our ability to operate our business and cause significant harm to our reputation. This risk is compounded by the complexity of the technology underlying our solutions and the large amounts of data that we leverage and process. In addition, with regard to Cardlytics Direct, if we are unable to attribute Consumer Incentives to our FIs’ customers in a timely manner, our FI partners may limit or discontinue their use of our solutions. Any such error, failure, malfunction, disruption or delay could result in damage to our reputation and could harm our business, financial condition and operating results.

Significant system disruptions or loss of data center capacity could adversely affect our business, financial condition and operating results.

Our business is heavily dependent upon highly complex data processing capabilities. We contract with our primary third-party data center, located in Atlanta, Georgia, and our redundancy data center, located in Suwanee, Georgia, pursuant to agreements that expire on December 31, 2020, subject to earlier termination upon material breach and a failure to cure. If for any reason our arrangements with our third-party data centers are terminated, or if we are unable to renew our agreements on commercially reasonable terms, we may be required to transfer that portion of our operations to new data center facilities, and we may incur significant costs and possible service interruption in connection with doing so. Further, protection of our third-party data centers against damage or interruption from fire, flood, tornadoes, power loss, telecommunications or equipment failure or other disasters and events beyond our control is important to our continued success. Any damage to, or failure of, the systems of the data centers that we utilize, or of our own equipment located within such data centers, could result in interruptions to the availability or functionality of our solutions. In addition, the failure of the data centers that we utilize to meet our capacity requirements could result in interruptions in the availability or functionality of our solutions or impede our ability to scale our operations. Any damage to the data centers that we utilize, or to our own equipment located within such data centers, that causes loss of capacity or otherwise causes interruptions in our operations could materially adversely affect our ability to quickly and effectively respond to our marketers’ or FI partners’ requirements, which could result in loss of their confidence, adversely impact our ability to attract new marketers and/or FI partners and force us to expend significant resources. The occurrence of any such events could adversely affect our business, financial condition and operating results.

Seasonal fluctuations in marketing activity could adversely affect our cash flows.

We expect our revenue, operating results, cash flows from operations and other key performance metrics to vary from quarter to quarter in part due to the seasonal nature of our marketers’ spending on digital marketing campaigns. For example, many marketers tend to devote a significant portion of their budgets to the fourth quarter of the calendar year to coincide with consumer holiday spending and to reduce spend in the first quarter of the calendar year. Seasonality could have a material impact on our revenue, operating results, cash flow from operations and other key performance metrics from period to period.

We may incur debt in the future, which may affect our ability to operate our business and secure additional financing.

We currently have a loan facility with Pacific Western Bank (the "2018 Loan Facility") consisting of a $40.0 million asset-based revolving line of credit ("2018 Line of Credit"). As of December 31, 2019, we did not have any outstanding borrowings under the 2018 Line of Credit.

Our 2018 Loan Facility is secured by substantially all of our assets and requires us, and any debt instruments we may enter into in the future may require us, to comply with various covenants that limit our ability to, among other things:

- dispose of assets;
- complete mergers or acquisitions;
- incur or guarantee indebtedness;
- sell or encumber certain assets;
- pay dividends or make other distributions to holders of our capital stock, including by way of certain stock buybacks;
- make specified investments;
- engage in different lines of business;
- change certain key management personnel; and
- engage in certain transactions with our affiliates.

We are also required under the 2018 Loan Facility to comply with specified financial covenants. Our ability to comply with those financial covenants can be affected by events beyond our control and we may not be able to comply with those covenants. These covenants may make it difficult to operate our business. A failure by us to comply with the covenants contained in our 2018 Loan Facility could result in an event of default, which could adversely affect our ability to respond to changes in our business and manage our operations. Upon the occurrence of an event of default, including the occurrence of a material adverse change, if we had outstanding borrowings under the 2018 Loan Facility at the time of such default the lenders could elect to declare all amounts outstanding to be due and payable and exercise other remedies as set forth in our 2018 Loan Facility. If any future indebtedness under our 2018 Loan Facility were to be accelerated, our future financial condition could be materially adversely affected.

We may incur additional indebtedness in the future. The instruments governing such indebtedness could contain provisions that are as, or more, restrictive than our existing debt instruments. If we are unable to repay, refinance or restructure our indebtedness when payment is due, the lenders could proceed against any collateral granted to them to secure such indebtedness or force us into bankruptcy or liquidation.

Our international sales and operations subject us to additional risks that can adversely affect our business, operating results and financial condition.

During each of 2017, 2018 and 2019, we derived 13%, 13% and 11% of our revenue outside the U.S., respectively. While substantially all of our operations are located in the U.S., we have an office in the U.K. and have opened a research and development office in Visakhapatnam, India and may continue to expand our international operations as part of our growth strategy. Our ability to convince marketers to expand their use of our solutions or renew their agreements with us is directly correlated to our direct engagement with such marketers or their agencies. To the extent that we are unable to engage with non-U.S. marketers and agencies effectively with our limited sales force capacity, we may be unable to grow sales to existing marketers to the same degree we have experienced in the U.S.

Our international operations subject us to a variety of risks and challenges, including:

- localization of our solutions, including adaptation for local practices;
- increased management, travel, infrastructure and legal compliance costs associated with having international operations;
- fluctuations in currency exchange rates and related effect on our operating results;
- longer payment cycles and difficulties in collecting accounts receivable or satisfying revenue recognition criteria, especially in emerging markets;
- increased financial accounting and reporting burdens and complexities;
- general economic conditions in each country or region;
- impact of Brexit;
- reduction in billings, foreign currency exchange rates, and trade with the European Union;
- contractual and legislative restrictions or changes;
- economic uncertainty around the world;
- compliance with foreign laws and regulations and the risks and costs of non-compliance with such laws and regulations;

- compliance with U.S. laws and regulations for foreign operations, including the Foreign Corrupt Practices Act, the U.K. Bribery Act, import and export control laws, tariffs, trade barriers, economic sanctions and other regulatory or contractual limitations on our ability to sell our software in certain foreign markets, and the risks and costs of non-compliance;
- heightened risks of unfair or corrupt business practices in certain geographies and of improper or fraudulent sales arrangements that may impact financial results and result in restatements of financial statements and irregularities in financial statements;
- difficulties in repatriating or transferring funds from or converting currencies in certain countries;
- cultural differences inhibiting foreign employees from adopting our corporate culture;
- reduced protection for intellectual property rights in some countries and practical difficulties of enforcing rights abroad; and
- compliance with the laws of foreign taxing jurisdictions and overlapping of different tax regimes.

Any of these risks could adversely affect our international operations, reduce our international revenues or increase our operating costs, adversely affecting our business, financial condition and operating results.

Legal, political and economic uncertainty surrounding the planned exit of the U.K. from the European Union may be a source of instability in international markets, create significant currency fluctuations, adversely affect our operations in the U.K. and pose additional risks to our business, revenue, financial condition and results of operations.

The uncertainty concerning the U.K.'s legal, political and economic relationship with the EU after the Transition Period may be a source of instability in the international markets, create significant currency fluctuations, and/or otherwise adversely affect trading agreements or similar cross-border cooperation arrangements (whether economic, tax, fiscal, legal, regulatory or otherwise).

These developments, or the perception that any of them could occur, have had and may continue to have a significant adverse effect on global economic conditions and the stability of global financial markets, and could significantly reduce global market liquidity and limit the ability of key market participants to operate in certain financial markets. In particular, it could also lead to a period of considerable uncertainty in relation to the U.K. financial and banking markets, as well as on the regulatory process in Europe. Asset valuations, currency exchange rates and credit ratings may also be subject to increased market volatility.

If the U.K. and the EU are unable to negotiate acceptable trading and customs terms or if other EU Member States pursue withdrawal, barrier-free access between the U.K. and other EU Member States or among the European Economic Area overall could be diminished or eliminated. The long-term effects of Brexit will depend on any agreements (or lack thereof) between the U.K. and the EU and, in particular, any arrangements for the U.K. to retain access to EU markets after the Transition Period.

Such a withdrawal from the EU is unprecedented, and it is unclear how the U.K.'s access to the European single market for goods, capital, services and labor within the EU, or single market, and the wider commercial, legal and regulatory environment, will impact our U.K. operations and customers. Our U.K. operations service marketers in the U.K. as well as in other countries in the EU and European Economic Area ("EEA"), and these operations could be disrupted by Brexit, particularly if there is a change in the U.K.'s relationship to the single market.

There may continue to be economic uncertainty surrounding the consequences of Brexit which could adversely impact customer confidence resulting in customers reducing their spending budgets on our solutions, which could adversely affect our business, revenue, financial condition, results of operations and could adversely affect the market price of our common stock.

If we do not manage our growth effectively, the quality of our solutions may suffer, and our business, financial condition and operating results may be negatively affected.

The recent, growth in our business has placed, and is expected to continue to place, a significant strain on our managerial, administrative, operational and financial resources, as well as our infrastructure. We rely heavily on information technology ("IT") systems to manage critical functions such as data storage, data processing, matching and retrieval, revenue recognition, budgeting, forecasting and financial reporting. To manage our growth effectively, we must continue to improve and expand our infrastructure, including our IT, financial and administrative systems and controls. In particular, we may need to significantly expand our IT infrastructure as the amount of data we store and transmit increases over time, which will require that we both utilize existing IT products and adopt new technologies. If we are not able to scale our IT infrastructure in a cost-effective and secure manner, our ability to offer competitive solutions will be harmed and our business, financial condition and operating results may suffer.

We must also continue to manage our employees, operations, finances, research and development and capital investments efficiently. Our productivity and the quality of our solutions may be adversely affected if we do not integrate and train our new employees quickly and effectively or if we fail to appropriately coordinate across our executive, research and development, technology, service development, analytics, finance, human resources, marketing, sales, operations and customer support teams. If we continue our rapid growth, we will incur additional expenses, and our growth may continue to place a strain on our resources, infrastructure and ability to maintain the quality of our solutions. If we do not adapt to meet these evolving challenges, or if the current and future members of our management team do not effectively manage our growth, the quality of our solutions may suffer and our corporate culture may be harmed. Failure to manage our future growth effectively could cause our business to suffer, which, in turn, could have an adverse impact on our business, financial condition and operating results.

Our corporate culture has contributed to our success, and if we cannot maintain it as we grow, we could lose the innovation, creativity and teamwork fostered by our culture, and our business may be harmed.

As of December 31, 2019, we had 432 full-time employees. We intend to further expand our overall headcount and operations, with no assurance that we will be able to do so while effectively maintaining our corporate culture. We believe our corporate culture is one of our fundamental strengths as it enables us to attract and retain top talent and deliver superior results for our customers. As we grow and change, we may find it difficult to preserve our corporate culture, which could reduce our ability to innovate and operate effectively. In turn, the failure to preserve our culture could negatively affect our ability to attract, recruit, integrate and retain employees, continue to perform at current levels and effectively execute our business strategy.

We are dependent on the continued services and performance of our senior management and other key personnel, the loss of any of whom could adversely affect our business.

Our future success depends in large part on the continued contributions of our senior management and other key personnel, including our two founders, Scott Grimes, our Chief Executive Officer, and Lynne Laube, our Chief Operating Officer. In particular, the leadership of key management personnel is critical to the successful management of our company, the development of our solutions and our strategic direction. We do not maintain “key person” insurance for any member of our senior management team or any of our other key employees. Our senior management and key personnel are all employed on an at-will basis, which means that they could terminate their employment with us at any time, for any reason and without notice. The loss of any of our key management personnel could significantly delay or prevent the achievement of our development and strategic objectives and adversely affect our business.

If we are unable to attract, integrate and retain additional qualified personnel, including top technical talent, our business could be adversely affected.

Our future success depends in part on our ability to identify, attract, integrate and retain highly skilled technical, managerial, sales and other personnel, including top technical talent from the industry and top research institutions. We face intense competition for qualified individuals from numerous other companies, including other software and technology companies, many of whom have greater financial and other resources than we do. These companies also may provide more diverse opportunities and better chances for career advancement. Some of these characteristics may be more appealing to high-quality candidates than those we have to offer. In addition, new hires often require significant training and, in many cases, take significant time before they achieve full productivity. We may incur significant costs to attract and retain qualified personnel, including significant expenditures related to salaries and benefits and compensation expenses related to equity awards and we may lose new employees to our competitors or other companies before we realize the benefit of our investment in recruiting and training them. Moreover, new employees may not be or become as productive as we expect, as we may face challenges in adequately or appropriately integrating them into our workforce and culture. In addition, as we move into new geographies, we will need to attract and recruit skilled personnel in those areas. We have little experience with recruiting in geographies outside of the U.S., and may face additional challenges in attracting, integrating and retaining international employees. If we are unable to attract, integrate and retain suitably qualified individuals who are capable of meeting our growing technical, operational and managerial requirements, on a timely basis or at all, our business will be adversely affected.

If currency exchange rates fluctuate substantially in the future, the results of our operations could be adversely affected.

Due to our international operations, we may be exposed to the effects of fluctuations in currency exchange rates. We generate revenue and incur expenses for employee compensation and other operating expenses at our U.K. and Indian offices in the local currency. Fluctuations in the exchange rates between the U.S. dollar and the British pound and Indian rupee could result in the dollar equivalent of such revenue and expenses being lower, which could have a negative net impact on our reported operating results. Although we may in the future decide to undertake foreign exchange hedging transactions to cover a portion of our foreign currency exchange exposure, we currently do not hedge our exposure to foreign currency exchange risks.

Our ability to use net operating losses and certain other tax attributes to offset future taxable income may be limited.

Our net operating loss ("NOL"), carryforwards could expire unused and be unavailable to offset future tax liabilities because of their limited duration or because of restrictions under U.S. tax law. As of December 31, 2019, we had U.S. federal and state NOLs of $266.8 million and $98.4 million, respectively. Our NOLs generated in tax years ending on or prior to December 31, 2017 are only permitted to be carried forward for 20 years under applicable U.S. tax law. Under the Tax Cuts and Jobs Act ("the Tax Act") our federal NOLs generated in tax years ending after December 31, 2017 may be carried forward indefinitely, but the deductibility of federal NOLs generated in tax years beginning after December 31, 2017 is limited. It is uncertain if and to what extent various states will conform to the Tax Act.

In addition, under Section 382 and Section 383 of the Internal Revenue Code of 1986, as amended, ("the Code") and corresponding provisions of state law, if a corporation undergoes an “ownership change,” which is generally defined as a greater than 50% change, by value, in its equity ownership over a three-year period, the corporation’s ability to use its pre-change net operating loss carryforwards and other pre-change tax attributes to offset its post-change income or taxes may be limited. We have experienced “ownership changes” under IRC Section 382 in the past, and future changes in ownership of our stock, including by reason of future offerings, as well as other changes that may be outside of our control, could result in future ownership changes under IRC Section 382. If we are or become subject to limitations on our use of NOLs under IRC Section 382, our NOLs could expire unutilized or underutilized, even if we earn taxable income against which our NOLs could otherwise be offset. Similar provisions of state tax law may also apply to limit our use of accumulated state tax attributes. In addition, at the state level, there may be periods during which the use of NOLs is suspended or otherwise limited, which could accelerate or permanently increase state taxes owed.

Unfavorable conditions in the global economy or the vertical markets we serve could limit our ability to grow our business and negatively affect our operating results.

General worldwide economic conditions have experienced significant instability in recent years. These conditions make it extremely difficult for marketers and us to accurately forecast and plan future business activities, and could cause marketers to reduce or delay their marketing spending. For example, we believe there is likely to be some short term impact from the coronavirus on spending by our marketers. In recent days, we have begun to see disruption in consumer spending, which may be due to the coronavirus. At this time, the potential impact on marketer spend from the coronavirus is difficult to predict and, therefore, it is not possible to fully determine the impact on our future results. Historically, economic downturns have resulted in overall reductions in marketing spending. If macroeconomic conditions deteriorate or are characterized by uncertainty or volatility, marketers may curtail or freeze spending on marketing in general and for services such as ours specifically, which could have an adverse impact on our business, financial condition and operating results.

In addition, our business may be materially and adversely affected by weak economic conditions in the specific vertical markets that we serve. We have historically generated a substantial majority of our revenue from marketers in the restaurant, brick and mortar retail, telecommunications and cable industries. We cannot predict the timing, strength or duration of any economic slowdown or recovery. In addition, even if the overall economy is robust, we cannot assure you that the market for services such as ours will experience growth or that we will experience growth.

Future acquisitions could disrupt our business and adversely affect our business, financial condition and operating results.

We may choose to expand by making acquisitions that could be material to our business, financial condition or operating results. Our ability as an organization to successfully acquire and integrate technologies or businesses is unproven. Acquisitions involve many risks, including the following:

- an acquisition may negatively affect our business, financial condition, operating results or cash flows because it may require us to incur charges or assume substantial debt or other liabilities, may cause adverse tax consequences or unfavorable accounting treatment, may expose us to claims and disputes by third parties, including intellectual

property claims and disputes, or may not generate sufficient financial return to offset additional costs and expenses related to the acquisition;

- we may encounter difficulties or unforeseen expenditures in integrating the business, technologies, products, personnel or operations of any company that we acquire, particularly if key personnel of the acquired company decide not to work for us;
- an acquisition, whether or not consummated, may disrupt our ongoing business, divert resources, increase our expenses and distract our management;
- an acquisition may result in a delay or reduction of purchases for both us and the company that we acquired due to uncertainty about continuity and effectiveness of solution from either company;
- we may encounter difficulties in, or may be unable to, successfully sell any acquired products or solutions;
- an acquisition may involve the entry into geographic or business markets in which we have little or no prior experience or where competitors have stronger market positions;
- challenges inherent in effectively managing an increased number of employees in diverse locations;
- the potential strain on our financial and managerial controls and reporting systems and procedures;
- potential known and unknown liabilities associated with an acquired company;
- our use of cash to pay for acquisitions would limit other potential uses for our cash;
- if we incur debt to fund such acquisitions, such debt may subject us to material restrictions on our ability to conduct our business as well as financial maintenance covenants;
- the risk of impairment charges related to potential write-downs of acquired assets or goodwill in future acquisitions; and
- to the extent that we issue a significant amount of equity or convertible debt securities in connection with future acquisitions, existing stockholders may be diluted and earnings (loss) per share may decrease (increase).

We may not succeed in addressing these or other risks or any other problems encountered in connection with the integration of any acquired business. The inability to integrate successfully the business, technologies, products, personnel or operations of any acquired business, or any significant delay in achieving integration, could have a material adverse effect on our business, financial condition and operating results.

Natural or man-made disasters and other similar events may significantly disrupt our business, and negatively impact our business, financial condition and operating results.

A significant portion of our employee base, operating facilities and infrastructure are centralized in Atlanta, Georgia. Any of our facilities may be harmed or rendered inoperable by natural or man-made disasters, including earthquakes, tornadoes, hurricanes, wildfires, floods, nuclear disasters, acts of terrorism or other criminal activities, infectious disease outbreaks and power outages, which may render it difficult or impossible for us to operate our business for some period of time. Our facilities would likely be costly to repair or replace, and any such efforts would likely require substantial time. Any disruptions in our operations could negatively impact our business, financial condition and operating results, and harm our reputation. In addition, we may not carry business insurance or may not carry sufficient business insurance to compensate for losses that may occur. Any such losses or damages could have a material adverse effect on our business, financial condition and operating results. In addition, the facilities of significant marketers, FI partners or third-party data providers may be harmed or rendered inoperable by such natural or man-made disasters, which may cause disruptions, difficulties or material adverse effects on our business.

We may require additional capital to support growth, and such capital might not be available on terms acceptable to us, if at all, which may in turn hamper our growth and adversely affect our business.

We intend to continue to make investments to support our business growth and may require additional funds to respond to business challenges, including the need to develop new solutions or enhance our solutions, improve our operating infrastructure or acquire complementary businesses and technologies. Accordingly, we may need to engage in equity, equity-linked or debt financings to secure additional funds. If we raise additional funds through future issuances of equity or equity-linked securities, including convertible debt securities, our existing stockholders could suffer significant dilution, and any new equity securities that we issue could have rights, preferences and privileges superior to those of holders of our common stock. Any debt financing that we secure in the future could involve restrictive covenants relating to our capital-raising activities and other financial and operational matters, including the ability to pay dividends or repurchase shares of our capital stock. This may make it more difficult for us to obtain additional capital, to pursue business opportunities, including potential acquisitions, or to return capital to our stockholders. We also may not be able to obtain additional financing on terms favorable to us, if at all. If we are unable to obtain adequate financing or financing on terms satisfactory to us when we require it, our ability to continue to support our business growth, service our indebtedness and respond to business challenges could be significantly impaired, and our business may be adversely affected.

If we are not able to maintain and enhance our brand, our business, financial condition and operating results may be adversely affected.

We believe that developing and maintaining awareness of the Cardlytics brand in a cost-effective manner is critical to achieving widespread acceptance of our existing solutions and future solutions and is an important element in attracting new marketers and FI partners. Furthermore, we believe that the importance of brand recognition will increase as competition in our market increases. Successful promotion of our brand will depend largely on the effectiveness of our marketing efforts and on our ability to deliver valuable solutions for our marketers, their agencies and our FI partners. In the past, our efforts to build our brand have involved significant expense. Brand promotion activities may not yield increased revenue and billings, and even if they do, any increased revenue and billings may not offset the expenses that we incurred in building our brand. If we fail to successfully promote and maintain our brand, or incur substantial expenses in an unsuccessful attempt to promote and maintain our brand, we may fail to attract enough new marketers or FI partners or retain our existing marketers or FI partners and our business could suffer.

Risks Related to Regulatory and Intellectual Property Matters

Regulatory, legislative or self-regulatory developments regarding Internet privacy matters could adversely affect our ability to conduct our business.

We, our FI partners and our marketers are subject to a number of domestic and international laws, rules and regulations that apply to online services and the Internet generally. These laws, rules and regulations address a range of issues including data privacy and cybersecurity, and restrictions or technological requirements regarding the collection, use, storage, protection, retention or transfer of data.

In the U.S., the rules and regulations to which we, directly or contractually through our FI partners, or our marketers may be subject include those promulgated under the authority of the Federal Trade Commission, the Electronic Communications Privacy Act, Computer Fraud and Abuse Act, Health Insurance Portability and Accountability Act, the Gramm-Leach-Bliley Act and state cybersecurity and breach notification laws, as well as regulator enforcement positions and expectations reflected in federal and state regulatory actions, settlements, consent decrees and guidance documents. Internationally, virtually every jurisdiction in which we operate has established its own data security and privacy legal frameworks with which we, directly or contractually through our FI partners, or our marketers may be required to comply, including the Data Protection Directive established in the European Union. Further, many federal, state and foreign government bodies and agencies have introduced, and are currently considering, additional laws and regulations. If passed, we will likely incur additional expenses and costs associated with complying with such laws. The costs of compliance with, and other burdens imposed by, the laws, rules, regulations and policies that are applicable to the businesses of our FI partners or marketers may limit the use and adoption of, and reduce the overall demand for, our solutions.

For example, the European Commission adopted the European General Data Protection Regulation ("GDPR"), which went into effect in May 2018. The GDPR imposes additional obligations and risk upon our business and increases substantially the penalties to which we could be subject in the event of any non–compliance. Administrative fines under the GDPR can amount up to 20 million Euros or four percent of the group’s annual global turnover, whichever is highest. These existing and proposed laws, regulations and industry standards can be costly to comply with and can delay or impede the development of new solutions, result in negative publicity and reputational harm, increase our operating costs, require significant management time and attention, increase our risk of non-compliance and subject us to claims or other remedies, including fines or demands that we modify or cease existing business practices.

Legislation and regulation of online businesses, including privacy and data protection regimes, is expansive, not clearly defined and rapidly evolving. Such regulation could create unexpected costs, subject us to enforcement actions for compliance failures, or restrict portions of our business or cause us to change our business model.

Government regulation and industry standards may increase the costs of doing business online. Federal, state, municipal and foreign governments and agencies have adopted and could in the future adopt, modify, apply or enforce laws, policies, regulations and standards covering user privacy, data security, technologies such as cookies that are used to collect, store and/or process data, online marketing, the use of data to inform marketing, the taxation of products and services, unfair and deceptive practices, and the collection (including the collection of information), use, processing, transfer, storage and/or disclosure of data associated with unique individual Internet users.

Although we have not collected or retained data that is traditionally considered PII under U.S. law, such as names, email addresses, addresses, phone numbers, social security numbers, credit card numbers, financial data or health data, we typically do collect and store Internet Protocol addresses and other device identifiers, which are or may be considered personal data in some jurisdictions or otherwise may be the subject of legislation or regulation. Furthermore, we may elect to use PII in the future for our current solutions or solutions we may introduce. In addition, certain U.S. laws impose requirements on the collection and use of information from or about users or their devices. Other existing laws may in the future be revised, or new laws may be passed, to impose more stringent requirements on the use of identifiers to collect user information, including information of the type that we collect. Changes in regulations could affect the type of data that we may collect; restrict our ability to use identifiers to collect information, and, thus, affect our ability to actually collect that information; the costs of doing business online, and, therefore, the demand for our solutions; the ability to expand or operate our business; and harm our business. For instance, California enacted the California Consumer Privacy Act ("CCPA") on June 28, 2018, which took effect on January 1, 2020. The CCPA gives California residents expanded rights to request access to and deletion of their personal information, opt out of certain personal information sharing, and receive detailed information about how their personal information is used. The CCPA provides for civil penalties for violations, as well as a private right of action for data breaches includes statutorily defined damages of up to $750 per citizen and that is expected to increase data breach litigation. The CCPA may increase our compliance costs and potential liability, and many similar laws have been proposed at the federal level and in other states. In the event that we are subject to or affected by the CCPA or other domestic privacy and data protection laws, any liability from failure to comply with the requirements of these laws could adversely affect our financial condition. Additionally, our FI partners may choose to alter or discontinue our program in light of the CCPA, which could adversely affect our financial condition.

In particular, there has been increasing public and regulatory concern and public scrutiny about the use of PII. Because the interpretation and application of privacy and data protection laws are still uncertain, it is possible that these laws may be interpreted and applied in a manner that is inconsistent with our existing data management practices or our solutions or that the definition of “PII” is expanded in the future. If this is the case, in addition to the possibility of fines, lawsuits and other claims, we could be required to fundamentally change our business activities and practices or modify our solutions, which could have a material adverse effect on our business, financial condition or operating results. Any inability to adequately address privacy concerns, even if unfounded, or comply with applicable privacy or data protection laws, regulations, policies or standards could result in additional cost and liability to us; damage our reputation; affect our ability to attract new marketers and FI partners and maintain relationships with our existing marketers and FI partners; and adversely affect our business, financial condition or operating results. Privacy and security concerns, whether valid or not, may inhibit market adoption of our solutions.

U.S. and non-U.S. regulators also may implement “Do-Not-Track” legislation, particularly if the industry does not implement a standard. Effective January 1, 2014, the California Governor signed into law an amendment to the California Online Privacy Protection Act of 2003. Such amendment requires operators of commercial websites and online service providers, under certain circumstances, to disclose in their privacy policies how such operators and providers respond to browser “do not track” signals.

Some of our activities may also be subject to the laws of foreign jurisdictions, whether or not we are established or based in such jurisdictions. In the U.K., for example, the Privacy and Electronic Communications Regulations 2011 ("PECR"), implement the requirements of Directive 2009/136/EC (which amended Directive 2002/58/EC), which is known as the ePrivacy Directive. The PECR regulates various types of electronic direct marketing that use cookies and similar technologies. The PECR also imposes sector-specific breach reporting requirements, but only as applicable to providers of particular public electronic communications services. Additional EU member state laws of this type may follow.

We may be required to, or otherwise may determine that it is advisable to, develop or obtain additional tools and technologies for validation of certain of our limited sales related to online purchases to compensate for a potential lack of cookie data. Even if we are able to do so, such additional tools may be subject to further regulation, time consuming to develop or costly to obtain, and less effective than our current use of cookies. In addition, certain information, such as Internet Protocol addresses as collected and used by us may constitute “personal data” in certain non-U.S. jurisdictions, including in the U.K., and therefore certain of our activities could be subject to EU laws applicable to the processing and use of personal data.

More generally, the regulatory framework for online services and data privacy and security issues worldwide can vary substantially from jurisdiction to jurisdiction, is rapidly evolving and is likely to remain uncertain for the foreseeable future. Many federal, state and foreign government bodies and agencies have adopted or are considering adopting laws, rules, regulations and standards regarding the collection, use, storage and disclosure of information, web browsing and geolocation data collection and data analytics. Interpretation of these laws, rules and regulations and their application to our solutions in the U.S. and foreign jurisdictions is ongoing and cannot be fully determined at this time.

In addition, the regulatory environment for the collection and use of consumer data by marketers is evolving in the U.S. and internationally and is currently a self-regulatory framework, which relies on market participants to ensure self-compliance. The voluntary nature of this self-regulatory framework may change.

The U.S. and foreign governments have enacted, considered or are considering legislation or regulations that could significantly restrict industry participants’ ability to collect, augment, analyze, use and share anonymous data, such as by regulating the level of consumer notice and consent required before a company can place cookies or other tracking technologies. A number of existing bills are pending in the U.S. Congress that contain provisions that would regulate how companies can use cookies and other tracking technologies to collect and utilize user information.

In addition to government regulation, privacy advocates and industry groups may propose new and different self-regulatory standards that either legally or contractually apply to us. We may also be subject to claims of liability or responsibility for the actions of third parties with whom we interact or upon whom we rely in relation to various solutions, including but not limited to our marketers and their agencies and our FI partners. If this were to occur, in addition to the possibility of fines, lawsuits and other claims, we could be required to fundamentally change our business activities and practices or modify our solutions, which could have an adverse effect on our business. Any inability to adequately address privacy and security concerns, even if unfounded, or comply with applicable privacy or data protection laws, regulations and policies, could result in additional cost and liability to us, damage our reputation, inhibit sales and adversely affect our business.

In addition, if we were to gain knowledge that we inadvertently received PII from our FI partners, our failure to comply with applicable laws and regulations, or to protect personal data, could result in enforcement action against us, including fines, imprisonment of our officers and public censure, claims for damages by consumers and other affected individuals, damage to our reputation and loss of goodwill, any of which could have a material adverse impact on our operations, financial performance and business. Even the perception of privacy or security concerns, whether or not valid, may harm our reputation and inhibit adoption of our solution by current and future marketers and marketing agencies.

If the use of matching technologies, such as cookies, pixels and device identifiers, is rejected by Internet users, restricted or otherwise subject to unfavorable terms, such as by non-governmental entities, our validation methodologies could be impacted and we may lose customers and revenue.

Our solution can be utilized by in-store and online marketers, however a large majority of consumer purchases continue to be made in-store. For validation of certain of these limited online purchases, our solutions may use digital matching technologies, such as mobile advertising identifiers, pixels and cookies to match the Cardlytics IDs we have assigned to our FIs’ customers with their digital presence outside of the FI partners’ websites and mobile applications. In most cases, the matching technologies we use relate to mobile advertising identifiers that we use in limited cases to validate that we influenced an online purchase. If our access to matching technology data is reduced, our ability to validate certain online purchases in the current manner may be affected and thus undermine the effectiveness of our solutions.

On occasion, “third-party cookies” may be placed through an Internet browser to validate online purchases. Internet users may easily block and/or delete cookies (e.g., through their browsers or “ad blocking” software). The most commonly used Internet browsers allow Internet users to modify their browser settings to prevent cookies from being accepted by their browsers, or are set to block third-party cookies by default. Further, Google recently announced its plans to eliminate third-party cookies from its browser in 2022. If more browser providers and Internet users adopt these settings or delete their cookies more frequently than they currently do, our practices related to the validation of limited online purchases could be impacted, which could result in us needing to implement other available methodologies. Some government regulators and privacy advocates have suggested creating a “Do Not Track” standard that would allow Internet users to express a preference, independent of cookie settings in their browser, not to have website browsing recorded. If Internet users adopt a “Do Not Track” browser setting and the standard either gets imposed by state or federal legislation or agreed upon by standard-setting groups, it may curtail or prohibit us from using non-personal data as we currently do. This could hinder growth of marketing on the Internet generally, and cause us to change our business practices and adversely affect our business, financial condition and operating results. In addition, browser manufacturers could replace cookies with their own product and require us to negotiate and pay them for use of such product to record information about Internet users’ interactions with our marketers, which may not be available on commercially reasonable terms, or at all.

Failure to protect our proprietary technology and intellectual property rights could substantially harm our business, financial condition and operating results.

Our future success and competitive position depend in part on our ability to protect our intellectual property and proprietary technologies. To safeguard these rights, we rely on a combination of patent, trademark, copyright and trade secret laws and contractual protections in the U.S. and other jurisdictions, all of which provide only limited protection and may not now or in the future provide us with a competitive advantage.

As of December 31, 2019, we had four issued patents and are pursuing ten additional patents. We cannot assure you that any patents will issue from any patent applications, that patents that issue from such applications will give us the protection that we seek or that any such patents will not be challenged, invalidated, or circumvented. Any patents that may issue in the future from our pending or future patent applications may not provide sufficiently broad protection and may not be enforceable in actions against alleged infringers. We have registered the “Cardlytics” name and logo in the U.S. and certain other countries. We have registrations and/or pending applications for additional marks in the U.S. and other countries; however, we cannot assure you that any future trademark registrations will be issued for pending or future applications or that any registered trademarks will be enforceable or provide adequate protection of our proprietary rights. We also license software from third parties for integration into our products, including open source software and other software available on commercially reasonable terms. We cannot assure you that such third parties will maintain such software or continue to make it available.

In order to protect our unpatented proprietary technologies and processes, we rely on trade secret laws and confidentiality agreements with our employees, consultants, vendors and others. Despite our efforts to protect our proprietary technology and trade secrets, unauthorized parties may attempt to misappropriate, reverse engineer or otherwise obtain and use them. Bank of America also has a right to purchase some of the source code underlying Cardlytics Direct upon the occurrence of specified events, which could compromise the proprietary nature of our platform and/or allow Bank of America to discontinue the use of our solutions. Additionally, other FIs have a right to obtain the source code underlying Cardlytics OPS through the release of source code held in escrow upon the occurrence of specified events, which could compromise the proprietary nature of our platform and/or allow these FIs to discontinue the use of our solutions.

In addition, others may independently discover our trade secrets, in which case we would not be able to assert trade secret rights, or develop similar technologies and processes. Further, the contractual provisions that we enter into may not prevent unauthorized use or disclosure of our proprietary technology or intellectual property rights and may not provide an adequate remedy in the event of unauthorized use or disclosure of our proprietary technology or intellectual property rights. Moreover, policing unauthorized use of our technologies, trade secrets and intellectual property is difficult, expensive and time-consuming, particularly in foreign countries where the laws may not be as protective of intellectual property rights as those in the U.S. and where mechanisms for enforcement of intellectual property rights may be weak. We may be unable to determine the extent of any unauthorized use or infringement of our solutions, technologies or intellectual property rights.

From time to time, legal action by us may be necessary to enforce our patents and other intellectual property rights, to protect our trade secrets, to determine the validity and scope of the intellectual property rights of others or to defend against claims of infringement or invalidity. Such legal action could result in substantial costs and diversion of resources and could negatively affect our business, financial condition and operating results.

Assertions by third parties of infringement or other violations by us of their intellectual property rights, whether or not correct, could result in significant costs and harm our business, financial condition and operating results.

Patent and other intellectual property disputes are common in our industry. We have in the past and may in the future be subject to claims alleging that we have misappropriated, misused, or infringed other parties' intellectual property rights. Some companies, including certain of our competitors, own larger numbers of patents, copyrights and trademarks than we do, which they may use to assert claims against us. Third parties may also assert claims of intellectual property rights infringement against our FI partners, whom we are typically required to indemnify. As the numbers of solutions and competitors in our market increases and overlap occurs, claims of infringement, misappropriation and other violations of intellectual property rights may increase. Any claim of infringement, misappropriation or other violation of intellectual property rights by a third-party, even those without merit, could cause us to incur substantial costs defending against the claim and could distract our management from our business.

The patent portfolios of our most significant competitors are larger than ours. This disparity may increase the risk that they may sue us for patent infringement and may limit our ability to counterclaim for patent infringement or settle through patent cross-licenses. In addition, future assertions of patent rights by third parties, and any resulting litigation, may involve patent holding companies or other adverse patent owners who have no relevant product revenues and against whom our own patents may therefore provide little or no deterrence or protection. There can be no assurance that we will not be found to infringe or otherwise violate any third-party intellectual property rights or to have done so in the past.

An adverse outcome of a dispute may require us to:

- pay substantial damages, including treble damages, if we are found to have willfully infringed a third-party's patents or copyrights;
- cease developing or selling solutions that rely on technology that is alleged to infringe or misappropriate the intellectual property of others;
- expend additional development resources to attempt to redesign our solutions or otherwise develop non-infringing technology, which may not be successful;
- enter into potentially unfavorable royalty or license agreements in order to obtain the right to use necessary technologies or intellectual property rights; and
- indemnify our FI partners and other third parties.

In addition, royalty or licensing agreements, if required or desirable, may be unavailable on terms acceptable to us, or at all, and may require significant royalty payments and other expenditures. Some licenses may also be non-exclusive, and therefore our competitors may have access to the same technology licensed to us. Any of the foregoing events could seriously harm our business, financial condition and operating results.

Our use of open source software could negatively affect our ability to sell our solutions and subject us to possible litigation.

We use open source software to deliver our solutions and expect to continue to use open source software in the future. Some of these open source licenses may require that source code subject to the license be made available to the public and that any modifications or derivative works to open source software continue to be licensed under open source licenses. This may require that we make certain proprietary code available under an open source license. We may face claims from others claiming ownership of, or seeking to enforce the license terms applicable to such open source software, including by demanding release of the open source software, derivative works or our proprietary source code that was developed using such software. Few of the licenses applicable to open source software have been interpreted by courts, and there is a risk that these licenses could be construed in a manner that could impose unanticipated conditions or restrictions on our ability to commercialize our products. These claims could also result in litigation, require us to purchase costly licenses or require us to devote additional research and development resources to change the software underlying our solutions, any of which would have a negative effect on our business, financial condition and operating results and may not be possible in a timely manner. We and our customers may also be subject to suits by parties claiming infringement due to the reliance by our solutions on certain open source software, and such litigation could be costly for us to defend or subject us to an injunction. In addition, if the license terms for the open source code change, we may be forced to re-engineer our software or incur additional costs. Finally, we cannot assure you that we have not incorporated open source software into the software underlying our solutions in a manner that may subject our proprietary software to an open source license that requires disclosure, to customers or the public, of the source code to such proprietary software. In the event that portions of our proprietary technology are determined to be subject to an open source license, we could be required to publicly release portions of our source code, re-engineer all or a portion of our technologies, or otherwise be limited in the licensing of our technologies, each of which could reduce or eliminate the value of our solutions and technologies and materially and adversely affect our ability to sustain and grow our business. Many open source licenses also limit our ability to bring patent infringement lawsuits against open source software that we use without losing our right to use such open source software. Therefore, the use of open source software may limit our ability to bring patent infringement lawsuits, to the extent we ever have any patents that cover open source software that we use.

We are subject to government regulation, including import, export, economic sanctions and anti-corruption laws and regulations that may expose us to liability and increase our costs.

Various of our products are subject to U.S. export controls, including the U.S. Department of Commerce's Export Administration Regulations and economic and trade sanctions regulations administered by the U.S. Treasury Department's Office of Foreign Assets Controls. These regulations may limit the export of our products and provision of our solutions outside of the U.S., or may require export authorizations, including by license, a license exception or other appropriate government authorizations, including annual or semi-annual reporting. Export control and economic sanctions laws may also include prohibitions on the sale or supply of certain of our products to embargoed or sanctioned countries, regions, governments, persons and entities. In addition, various countries regulate the importation of certain products, through import permitting and licensing requirements, and have enacted laws that could limit our ability to distribute our products. The exportation, reexportation, and importation of our products and the provision of solutions, including by our partners, must comply with these laws or else we may be adversely affected, through reputational harm, government investigations, penalties and a denial or curtailment of our ability to export our products or provide solutions. Complying with export control and sanctions laws may be time consuming and may result in the delay or loss of sales opportunities. Although we take precautions to prevent our products from being provided in violation of such laws, our products may have previously been, and could in the future be, provided inadvertently in violation of such laws, despite the precautions we take. If we are found to be in violation of U.S. sanctions or export control laws, it could result in substantial fines and penalties for us and for the individuals working for us. Changes in export or import laws or corresponding sanctions, may delay the introduction and sale of our products in international markets, or, in some cases, prevent the export or import of our products to certain countries, regions, governments, persons or entities altogether, which could adversely affect our business, financial condition and results of operations.

We are also subject to various domestic and international anti-corruption laws, such as the U.S. Foreign Corrupt Practices Act and the U.K. Bribery Act, as well as other similar anti-bribery and anti-kickback laws and regulations. These laws and regulations generally prohibit companies and their employees and intermediaries from authorizing, offering or providing improper payments or benefits to officials and other recipients for improper purposes. We rely on certain third parties to support our sales and regulatory compliance efforts and can be held liable for their corrupt or other illegal activities, even if we do not explicitly authorize or have actual knowledge of such activities. Although we take precautions to prevent violations of these laws, our exposure for violating these laws increases as our international presence expands and as we increase sales and operations in foreign jurisdictions.

Risks Related to Ownership of Our Common Stock

An active trading market for our common stock may not develop or be sustained.

Although our common stock is listed on the Nasdaq Global Market, we cannot assure you that an active trading market for our shares will be sustained. If an active market for our common stock is not sustained, it may be difficult for investors in our common stock to sell shares without depressing the market price for the shares or to sell the shares at all.

The market price of our common stock has been and is likely to continue to be volatile.

The market price of our common stock may be highly volatile and may fluctuate substantially as a result of a variety of factors, some of which are related in complex ways. Since shares of our common stock were sold in our initial public offering in February 2018 at a price of $13.00 per share, our stock price has ranged from an intraday low of $9.80 to an intraday high of $107.50 through February 28, 2020. Factors that may affect the market price of our common stock include:

- actual or anticipated fluctuations in our financial condition and operating results;
- variance in our financial performance from expectations of securities analysts or investors;
- changes in the prices of our solutions;
- changes in laws or regulations applicable to our solutions;
- announcements by us or our competitors of significant business developments, acquisitions or new offerings;
- our involvement in litigation;
- our sale of our common stock or other securities in the future;
- changes in senior management or key personnel;
- trading volume of our common stock;
- changes in the anticipated future size and growth rate of our market; and
- general economic, regulatory and market conditions.

The stock markets have experienced extreme price and volume fluctuations that have affected and continue to affect the market prices of equity securities of many companies. These fluctuations have often been unrelated or disproportionate to the operating performance of those companies. Broad market and industry fluctuations, as well as general economic, political, regulatory and market conditions, may negatively impact the market price of our common stock. In the past, companies that have experienced volatility in the market price of their securities have been subject to securities class action litigation. We may be the target of this type of litigation in the future, which could result in substantial costs and divert our management’s attention.

We do not intend to pay dividends for the foreseeable future and, as a result, your ability to achieve a return on your investment will depend on appreciation in the price of our common stock.

We have never declared or paid any cash dividends on our common stock and do not intend to pay any cash dividends in the foreseeable future. We anticipate that we will retain all of our future earnings for use in the development of our business and for general corporate purposes. Any determination to pay dividends in the future will be at the discretion of our board of directors. Accordingly, investors must rely on sales of their common stock after price appreciation, which may never occur, as the only way to realize any future gains on their investments.

Future sales of our common stock in the public market could cause our share price to decline.

Sales of a substantial number of shares of our common stock in the public market, or the perception that these sales might occur, could depress the market price of our common stock and could impair our ability to raise capital through the sale of additional equity securities. We are unable to predict the effect that sales, particularly sales by our directors, executive officers, and significant stockholders, may have on the prevailing market price of our common stock. All of our outstanding shares of common stock are available for sale in the public market, subject only to the restrictions of Rule 144 under the Securities Act in the case of our affiliates. In addition, the shares of common stock subject to outstanding options under our equity incentive plans and the shares reserved for future issuance under our equity incentive plans, as well as shares issuable upon vesting of restricted stock unit awards, will become eligible for sale in the public market in the future, subject to certain legal and contractual limitations. In addition, certain holders of our common stock have the right, subject to various conditions and limitations, to request we include their shares of our common stock in registration statements we may file relating to our securities.

We may issue common stock or other securities if we need to raise additional capital. The number of new shares of our common stock issued in connection with raising additional capital could constitute a material portion of our then-outstanding shares of our common stock.

If securities or industry analysts do not publish research or reports about our business, or publish negative reports about our business, our stock price and trading volume could decline.

The trading market for our common stock will depend, in part, on the research and reports that securities or industry analysts publish about us or our business. We do not have any control over these analysts. If our financial performance fails to meet analyst estimates or one or more of the analysts who cover us downgrade our stock or change their opinion of our business or market value, our share price would likely decline. If one or more of these analysts cease coverage of us or fail to regularly publish reports on us, we could lose visibility in the financial markets, which could cause our share price or trading volume to decline.

Our reported financial results may be adversely affected by changes in accounting principles generally accepted in the U.S.

Generally accepted accounting principles in the U.S. are subject to interpretation by the Financial Accounting Standards Board ("FASB"), the U.S. Securities and Exchange Commission ("SEC"), and various bodies formed to promulgate and interpret appropriate accounting principles. A change in these principles or interpretations could have a significant effect on our reported financial results, and could affect the reporting of transactions completed before the announcement of a change.

We are an “emerging growth company” and we cannot be certain if the reduced disclosure requirements applicable to emerging growth companies will make our common stock less attractive to investors.

We are an “emerging growth company,” as defined in the JOBS Act and we may take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not “emerging growth companies” including, but not limited to, the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act ("Section 404"), reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements, and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved. We cannot predict if investors will find our common stock less attractive if we choose to rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile.

As an “emerging growth company,” the JOBS Act allows us to delay adoption of new or revised accounting pronouncements applicable to public companies until such pronouncements are made applicable to private companies. We have elected to use this extended transition period under the JOBS Act. As a result, our consolidated financial statements may not be comparable to the financial statements of issuers who are required to comply with the effective dates for new or revised accounting standards that are applicable to public companies, which may make our common stock less attractive to investors.

We have incurred and will continue to incur increased costs as a result of being a public company.

As a newly public company, and particularly after we are no longer an “emerging growth company,” we have incurred and we will continue to incur significant legal, accounting and other expenses that we did not incur as a private company. The Sarbanes-Oxley Act, the Dodd-Frank Wall Street Reform and Consumer Protection Act, the listing requirements of the Nasdaq Stock Market and other applicable securities rules and regulations impose various requirements on public companies. We expect that compliance with these requirements will continue to increase certain of our expenses and make some activities more time-consuming than they have been in the past when we were a private company. Such additional costs going forward could negatively affect our financial results Furthermore, those costs are likely to increase after we are no longer an "emerging growth company" under the JOBS Act. If the aggregate market value of our common stock held by non-affiliates remains over $700 million on June 30, 2020, we will lose “emerging growth company status" effective December 31, 2020.

As a public company, we are obligated to develop and maintain proper and effective internal control over financial reporting and any failure to maintain the adequacy of these internal controls may adversely affect investor confidence in our company and, as a result, the value of our common stock.

We are required, pursuant to Section 404, to furnish a report by management on, among other things, the effectiveness of our internal control over financial reporting on an annual basis. Our independent registered public accounting firm will not be required to attest to the effectiveness of our internal control over financial reporting until our first annual report required to be filed with the SEC following the date we are no longer an “emerging growth company,” as defined in the JOBS Act. If the share price of our common stock closes on June 30, 2020 at approximately the same levels that it has been trading at recently, we will lose “emerging growth company status" effective December 31, 2020. We will be required to disclose significant changes made in our internal control procedures on a quarterly basis.

We have commenced the costly and challenging process of compiling the system and processing documentation necessary to perform the evaluation needed to comply with Section 404, and we may not be able to complete our evaluation, testing and any required remediation in a timely fashion. Our compliance with Section 404 will require that we incur substantial accounting expense and expend significant management efforts. We currently do not have an internal audit group, and we may need to hire additional accounting and financial staff with appropriate public company experience and technical accounting knowledge and compile the system and process documentation necessary to perform the evaluation needed to comply with Section 404.

During the evaluation and testing process of our internal controls, if we identify one or more material weaknesses in our internal control over financial reporting, we will be unable to assert that our internal control over financial reporting is effective. We cannot assure you that there will not be material weaknesses or significant deficiencies in our internal control over financial reporting in the future. Any failure to maintain internal control over financial reporting could severely inhibit our ability to accurately report our financial condition and operating results. If we are unable to conclude that our internal control over financial reporting is effective, or if our independent registered public accounting firm determines we have a material weakness or significant deficiency in our internal control over financial reporting, we could lose investor confidence in the accuracy and completeness of our financial reports, the market price of our common stock could decline, and we could be subject to sanctions or investigations by the SEC or other regulatory authorities. Failure to remedy any material weakness in our internal control over financial reporting, or to implement or maintain other effective control systems required of public companies, could also restrict our future access to the capital markets.

Anti-takeover provisions in our charter documents and under Delaware law could make an acquisition of us more difficult, limit attempts by our stockholders to replace or remove our current management and limit the market price of our common stock.

Provisions in our amended and restated certificate of incorporation and amended and restated bylaws may have the effect of delaying or preventing a change in control or changes in our management. Our amended and restated certificate of incorporation and amended and restated bylaws include provisions that:

- authorize our board of directors to issue preferred stock without further stockholder action and with voting liquidation, dividend and other rights superior to our common stock;
- require that any action to be taken by our stockholders be effected at a duly called annual or special meeting and not by written consent, and limit the ability of our stockholders to call special meetings;
- establish an advance notice procedure for stockholder proposals to be brought before an annual meeting, including proposed nominations of persons for director nominees;
- establish that our board of directors is divided into three classes, with directors in each class serving three-year staggered terms;
- require the approval of holders of two-thirds of the shares entitled to vote at an election of directors to adopt, amend or repeal our amended and restated bylaws or amend or repeal the provisions of our amended and restated certificate of incorporation regarding the election and removal of directors and the ability of stockholders to take action by written consent or call a special meeting;
- prohibit cumulative voting in the election of directors; and
- provide that vacancies on our board of directors may be filled only by a majority of directors then in office, even though less than a quorum.

These provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors, which is responsible for appointing the members of our management. In addition, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which generally prohibits a Delaware corporation from engaging in any of a broad range of business combinations with any "interested" stockholder for a period of three years following the date on which the stockholder became an "interested" stockholder. Any of the foregoing provisions could limit the price that investors might be willing to pay in the future for shares of our common stock, and they could deter potential acquirers of our company, thereby reducing the likelihood that you would receive a premium for your shares of our common stock in an acquisition.

Our amended and restated certificate of incorporation designates the Court of Chancery of the State of Delaware as the exclusive forum for certain litigation that may be initiated by our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us.

Pursuant to our amended and restated certificate of incorporation, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for the following types of actions or proceedings under Delaware statutory or common law. (1) any derivative action or proceeding brought on our behalf, (2) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers or other employees to us or our stockholders, (3) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law, our amended and restated certificate of incorporation or our amended and restated bylaws or (4) any action asserting a claim governed by the internal affairs doctrine. However, this exclusive forum provision would not apply to suits brought to enforce a duty or liability created by the Securities Act or the Exchange Act. The forum selection clause in our amended and restated certificate of incorporation may limit our stockholders' ability to obtain a favorable judicial forum for disputes with us.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

Our principal executive offices are located in Atlanta, Georgia where we occupy a facility of approximately 77,000 square feet. Our lease expires in April 2025. We have additional offices in New York, NY; San Francisco, CA; London, U.K. and Visakhapatnam, India. We believe that our facilities are sufficient for our current needs and that, should it be needed, additional facilities will be available to accommodate the expansion of our business.

ITEM 3. LEGAL PROCEEDINGS

From time to time we may become involved in legal proceedings or be subject to claims arising in the ordinary course of our business. We are not presently a party to any legal proceedings that, if determined adversely to us, would individually or taken together have a material adverse effect on our business, operating results, financial condition or cash flows. Regardless of the outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management resources and other factors.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II.

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Market Information

Our common stock is listed on the Nasdaq Global Market under the symbol "CDLX."

Holders of Record

As of February 28, 2020, there were approximately 61 stockholders of record of our common stock. Because many of our shares are held by brokers and other institutions on behalf of stockholders, we are unable to estimate the total number of stockholders represented by these record holders.

Recent Sales of Unregistered Securities

Issuances of Common Stock upon the Exercise of Warrants

On January 15, 2020, we issued 9,268 shares of our common stock upon the cashless exercise of warrants to purchase 12,687 shares of our common stock to one accredited investor.

The issuance of the securities described in the preceding paragraph was deemed to be exempt from registration under the Securities Act in reliance on Section 4(2) of the Securities Act or Regulation D promulgated thereunder or Rule 701 promulgated under the Securities Act as a transaction by an issuer not involving a public offering.

Issuer Purchases of Equity Securities

None.

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ITEM 6. SELECTED FINANCIAL DATA

We derived the selected consolidated statement of operations data and consolidated balance sheet data for the years ended and as of December 31, 2015, 2016, 2017, 2018 and 2019 from our audited consolidated financial statements included elsewhere in this Annual Report. The consolidated statement of operations data for the year ended December 31, 2015 and 2016 and the consolidated balance sheet data as of December 31, 2015, 2016 and 2017 have been derived from our audited consolidated financial statements which are not included herein. Our historical results are not necessarily indicative of the results to be expected in the future. The selected financial data should be read together with Item 7. “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and in conjunction with our consolidated financial statements, related notes, and other financial information included elsewhere in this Annual Report. The following tables are stated in thousands, except per share data.

	Year Ended December 31,				
	2015	2016	2017	2018	2019
Consolidated statement of operations data:					
Revenue	$ 77,634	$ 112,821	$ 130,365	$ 150,684	$ 210,430
Costs and expenses:					
FI Share and other third-party costs	47,691	66,285	73,247	85,371	118,080
Delivery costs[1]	4,803	6,127	7,012	10,632	12,893
Sales and marketing expense[1]	32,784	31,261	31,927	41,878	43,828
Research and development expense[1]	11,604	13,902	12,150	16,210	11,699
General and administrative expense[1]	18,197	21,355	20,100	34,228	36,720
Depreciation and amortization expense	2,194	4,219	3,028	3,282	4,535
Termination of U.K. agreement expense	—	25,904	—	—	—
Total costs and expenses	117,273	169,053	147,464	191,601	227,755
Operating loss	(39,639)	(56,232)	(17,099)	(40,917)	(17,325)
Non-operating (expense) income:					
Interest expense, net	(1,484)	(6,170)	(8,239)	(3,264)	(548)
Change in fair value of warrant liabilities, net	914	(32)	(581)	(6,760)	—
Change in fair value of convertible promissory notes	—	(786)	(1,244)	—	—
Change in fair value of convertible promissory notes—related parties	—	(10,091)	6,213	—	—
Other (expense) income, net	(432)	(2,385)	1,309	(2,101)	729
Total non-operating (expense) income	(1,002)	(19,464)	(2,542)	(12,125)	181
Loss before income taxes	(40,641)	(75,696)	(19,641)	(53,042)	(17,144)
Income tax benefit	16	—	—	—	—
Net loss	(40,625)	(75,696)	(19,641)	(53,042)	(17,144)
Adjustments to the carrying value of redeemable convertible preferred stock	(1,001)	(982)	(5,743)	(157)	—
Net loss attributable to common stockholders	$ (41,626)	$ (76,678)	$ (25,384)	$ (53,199)	$ (17,144)
Net loss per share attributable to common stockholders, basic and diluted[2]	$ (19.91)	$ (32.48)	$ (7.86)	$ (2.79)	$ (0.72)
Weighted-average common shares outstanding, basic and diluted	2,091	2,361	3,230	19,060	23,746

(1) Includes stock-based compensation expense as follows:

	Year Ended December 31,				
	2015	2016	2017	2018	2019
Delivery costs	$ 97	$ 96	$ 202	$ 633	$ 711
Sales and marketing expense	1,015	1,153	1,894	9,358	4,248
Research and development expense	386	574	951	4,087	1,619
General and administrative expense	955	1,624	2,100	12,712	9,273
Total stock-based compensation expense	$ 2,453	$ 3,447	$ 5,147	$ 26,790	$ 15,851

(2) Refer to Note 14—Earnings Per Share to our consolidated financial statements for additional information regarding the calculation of basic and diluted net loss per share attributable to common stockholders.

	December 31,				
	2015	2016	2017	2018	2019
Consolidated balance sheet data:					
Cash and cash equivalents	$ 27,323	$ 22,838	$ 21,262	$ 39,623	$ 104,458
Restricted cash	286	130	—	20,247	129
Accounts receivable, net	37,410	42,042	48,348	58,125	81,452
Working capital[1]	817	28,720	32,490	72,446	117,329
Total assets	82,290	86,859	100,758	153,763	224,313
Total debt	32,262	111,899	57,012	46,714	37
Total liabilities	84,390	157,672	113,007	101,788	81,046
Total redeemable convertible preferred stock	160,061	146,022	196,437	—	—
Warrant liability	2,942	2,197	10,230	—	—
Additional paid-in capital	10,364	29,867	58,693	371,463	480,578
Accumulated deficit	(173,108)	(248,804)	(268,445)	(321,487)	(338,631)
Total stockholders’ (deficit) equity	(162,161)	(216,835)	(208,686)	51,975	143,267

(1) We define working capital as current assets less current liabilities. See our consolidated financial statements for further details regarding our current assets and current liabilities.

ITEM 7. MANAGEMENT’S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion and analysis of our financial condition and results of operations together with our consolidated financial statements and the related notes and other financial information included elsewhere in this Annual Report. Some of the information contained in this discussion and analysis or set forth elsewhere in this Annual Report, including information with respect to our plans and strategy for our business, includes forward-looking statements that involve risks and uncertainties. You should review Item 1A. “Risk Factors” and “Special Note Regarding Forward-Looking Statements” in this Annual Report for a discussion of important factors that could cause actual results to differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis.

Overview

Cardlytics operates an advertising platform within financial institutions’ (“FIs”) digital channels, which include online, mobile, email, and various real-time notifications. Our partnerships with FIs provide us with access to their anonymized purchase data and digital banking customers. By applying advanced analytics to this aggregation of purchase data, we make it actionable, helping marketers identify, reach and influence likely buyers at scale, and measure the true sales impact of their marketing spend. We have strong relationships with leading marketers across a variety of industries, including national and regional restaurant and retail chains, large providers of cable satellite television and wireless services, and increasingly, travel and hospitality, grocery, e-commerce, and luxury brands. Using our purchase intelligence presents customers with offers to save money at a time when they are thinking of their finances.

We have historically derived substantially all of our revenue from sales of Cardlytics Direct. Cardlytics Direct is our proprietary native bank advertising channel that enables marketers to reach consumers through the FIs' trusted and frequently visited digital banking channels. Working with a marketer, we design a campaign that targets consumers based on their purchase history. The consumer is offered an incentive to make a purchase from the marketer within a specified period. We use a portion of the fees that we collect from marketers to provide these consumer incentives to our FIs’ customers after they make qualifying purchases ("Consumer Incentives"). We report our revenue on our condensed consolidated statements of operations net of Consumer Incentives since we do not provide the goods or services that are purchased by our FIs’ customers from the marketers to which the Consumer Incentives relate.

We generally pay our FI partners a negotiated and fixed percentage of our billings to marketers less any Consumer Incentives that we pay to the FIs’ customers and certain third-party data costs ("FI Share"). We report our revenue gross of FI Share. FI Share costs are included in FI Share and other third-party costs in our consolidated statements of operations, rather than as a reduction of revenue, because we and not our FI partners act as the principal in our arrangements with marketers.

We run campaigns offering compelling Consumer Incentives to drive an expected rate of return on advertising spend for marketers. At times, we may collaborate with an FI partner to enhance the level of Consumer Incentives to their respective FIs' customers funded by their FI Share. We believe that these investments by our FI partners positively impact our platform by making FIs' customers more highly engaged with our platform. However, these investments negatively impact our GAAP revenue, which is reported net of Consumer Incentives.

Billings represents the gross amount billed to marketers and is reported gross of both Consumer Incentives and FI Share. Adjusted contribution represents our revenue, which is reported net of Consumer Incentives, less our adjusted FI Share and other third-party costs. We believe these non-GAAP measures, alongside our GAAP revenue, provides useful information to investors for period-to-period comparisons of our core business and in understanding and evaluating our results of operations in the same manner as our management and board of directors. Billings and adjusted contribution are further defined under the heading "Non-GAAP Measures and Other Performance Metrics" below.

Revenue (reported net of Consumer Incentives and gross of FI Share and other third-party costs) was $150.7 million and $210.4 million for December 31, 2018 and 2019, respectively, representing a growth rate of 40%. Billings was $219.0 million and $316.1 million for December 31, 2018 and 2019, respectively, representing a growth rate of 44%. Adjusted contribution was $69.5 million and $95.2 million for December 31, 2018 and 2019, respectively, representing a growth rate of 37%.

The following table summarizes our results (dollars in thousands):

	Year Ended December 31,		Change		Year Ended December 31,		Change	
	2017	2018	$	%	2018	2019	$	%
Billings	$ 191,526	$ 218,980	$ 27,454	14%	$ 218,980	$ 316,053	$ 97,073	44%
Consumer Incentives	61,161	68,296	7,135	12	68,296	105,623	37,327	55
Revenue	130,365	150,684	20,319	16	150,684	210,430	59,746	40
Adjusted FI Share and other third-party costs(1)(2)	71,621	81,234	9,613	13	81,234	115,211	33,977	42
Adjusted contribution(2)	$ 58,744	$ 69,450	$ 10,706	18%	$ 69,450	$ 95,219	$ 25,769	37%

(1) Adjusted FI Share and other third-party costs excludes a non-cash equity expense included in FI Share and amortization of deferred FI implementation costs, as detailed below in our reconciliation of GAAP gross profit to adjusted contribution.
(2) Adjusted FI Share and other third-party costs and adjusted contribution include the impact of a $0.8 million gain during 2018 related to the renewal of our agreement with an FI partner, which contains certain amendments that are retroactively applied as of January 1, 2018.

During 2017, 2018 and 2019, our net loss was $19.6 million, $53.0 million and $17.1 million, respectively. Our historical losses have been driven by our substantial investments in our purchase intelligence platform and infrastructure, which we believe will enable us to expand the use of our platform by both FIs and marketers. During 2017, 2018 and 2019, our net loss includes stock-based compensation expense of $5.1 million, $26.8 million and $15.9 million, respectively. In 2017, our net loss also includes a $5.0 million non-cash gain related to the change in fair value of convertible promissory notes. In 2018, our net loss also includes a $6.8 million non-cash expense related to the change in fair value of our warrant liabilities, a $2.5 million non-cash expense related to the vesting of warrants issued to an FI partner that accelerated upon our IPO, a $0.9 million loss on extinguishment of debt and a $0.8 million gain related to the renewal of our agreement with an FI partner.

FI Partners

Today, our FI partners include Bank of America, National Association ("Bank of America"), JPMorgan Chase Bank, National Association (“Chase”) and Wells Fargo Bank, National Association (“Wells Fargo”) in the U.S. and Lloyds Bank plc (“Lloyds”) and Santander UK plc (“Santander”) in the U.K., as well as many other national and regional financial institutions, including several of the largest bank processors and digital banking providers to reach customers of small and mid-sized FIs. Wells Fargo began a phased launch of our platform in the fourth quarter of 2019 that will continue into the first half of 2020.

As the amount of revenue that we can generate from marketers with respect to Cardlytics Direct is primarily a function of the number of active users on our FI partners’ digital banking platforms, we believe that the number of monthly active users ("FI MAUs") contributed by any FI partner is indicative of our level of dependence on such FI partner. During 2017, 2018 and 2019, Bank of America contributed 51%, 47%, and 26% of our average FI MAUs, respectively. Chase contributed 9% and 47% of our average FI MAUs in 2018 and 2019, respectively. We anticipate that Chase, Bank of America and, once the phased launch is complete, Wells Fargo will contribute a significant portion of our average FI MAUs for the foreseeable future.

FI Partner Commitments

Agreements with certain FI partners require us to fund the development of specific enhancements, pay for certain implementation fees, or make milestone payments upon the deployment of our solution. Certain of these agreements provide for future reductions in FI Share due to the FI partner. During 2018, development payments to a certain FI partner totaled $9.3 million which was partially offset by recoveries through FI Share payment reductions of $4.6 million in 2019.

We have an FI Share commitment to a certain FI partner totaling $10.0 million over a 12-month period following the completion of certain milestones by the FI partner, which were not met as of December 31, 2019. The timing of the completion of the milestones is uncertain; however, we do not currently believe the FI partner will complete the milestones in 2020. Any expected shortfall will be accrued during the 12-month period following the completion of the milestones.

Non-GAAP Measures and Other Performance Metrics

We regularly monitor a number of financial and operating metrics in order to measure our current performance and estimate our future performance. Our metrics may be calculated in a manner different than similar metrics used by other companies.

	Year Ended December 31,		
	2017	2018	2019
	(Amounts in thousands, except ARPU)		
FI MAUs	54,943	65,012	122,586
ARPU	$ 2.23	$ 2.30	$ 1.72
Billings	$ 191,526	$ 218,980	$ 316,053
Adjusted contribution(1)	$ 58,744	$ 69,450	$ 95,219
Adjusted EBITDA(1)	$ (7,178)	$ (6,595)	$ 6,052

(1) Adjusted contribution and Adjusted EBITDA includes the impact of a $0.8 million gain during 2018 related to the renewal of our agreement with an FI partner, which contains certain amendments that are retroactively applied as of January 1, 2018.

Monthly Active Users

We define FI MAUs as targetable customers or accounts of our FI partners that logged in and visited the online or mobile banking applications of, or opened an email containing our offers from, our FI partners during a monthly period. We then calculate a monthly average of these FI MAUs for the periods presented. We believe that FI MAUs is an indicator of our and our FI partners’ ability to drive engagement with Cardlytics Direct and is reflective of the marketing base that we offer to marketers through Cardlytics Direct.

Average Revenue per User

We define ARPU as the total Cardlytics Direct revenue generated in the applicable period calculated in accordance with generally accepted accounting principles in the United States ("GAAP"), divided by the average number of FI MAUs in the applicable period. We believe that ARPU is an indicator of the value of our relationships with our FI partners with respect to Cardlytics Direct.

Billings

Billings represents the gross amount billed to marketers for advertising campaigns in order to generate revenue. Billings is reported gross of both Consumer Incentives and FI Share. Our GAAP revenue is recognized net of Consumer Incentives and gross of FI Share.

We review billings for internal management purposes. We believe that billings provides useful information to investors for period-to-period comparisons of our core business and in understanding and evaluating our results of operations in the same manner as our management and board of directors. Nevertheless, our use of billings has limitations as an analytical tool, and you should not consider it in isolation or as a substitute for analysis of our financial results as reported under GAAP. Other companies, including companies in our industry that have similar business arrangements, may address the impact of Consumer Incentives differently. You should consider billings alongside our other GAAP financial results.

The following table presents a reconciliation of billings to revenue, the most directly comparable GAAP measure, for each of the periods indicated (in thousands):

	Year Ended December 31,		
	2017	2018	2019
Revenue	$ 130,365	$ 150,684	$ 210,430
Plus:			
Consumer Incentives	61,161	68,296	105,623
Billings	$ 191,526	$ 218,980	$ 316,053

Adjusted Contribution

Adjusted contribution measures the degree by which revenue generated from our marketers exceeds the cost to obtain the purchase data and the digital advertising space from our FI partners. Adjusted contribution demonstrates how incremental marketing spend on our platform generates incremental amounts to support our sales and marketing, research and development, general and administration and other investments. Adjusted contribution is calculated by taking our total revenue less our FI Share and other third-party costs exclusive of a non-cash equity expense and amortization of deferred FI implementation costs, which are non-cash costs. Adjusted contribution does not take into account all costs associated with generating revenue from advertising campaigns, including sales and marketing expenses, research and development expenses, general and administrative expenses and other expenses, which we do not take into consideration when making decisions on how to manage our advertising campaigns.

We use adjusted contribution extensively to measure the efficiency of our advertising platform, make decisions to manage advertising campaigns and evaluate our operational performance. Adjusted contribution is also used to determine the vesting of performance-based equity awards and is used to determine the achievement of quarterly and annual bonuses across our entire global employee base, including executives. We view adjusted contribution as an important operating measure of our financial results. We believe that adjusted contribution provides useful information to investors and others in understanding and evaluating our results of operations in the same manner as our management and board of directors. Adjusted contribution should not be considered in isolation from, or as an alternative to, measures prepared in accordance with GAAP. Adjusted contribution should be considered together with other operating and financial performance measures presented in accordance with GAAP. Also, adjusted contribution may not necessarily be comparable to similarly titled measures presented by other companies. Refer to Note 15—Segments to our condensed consolidated financial statements for further details on our adjusted contribution by segment.

The following table presents a reconciliation of adjusted contribution to revenue, the most directly comparable GAAP measure, for each of the periods indicated (in thousands):

	Year Ended December 31,		
	2017	2018	2019
Revenue	$ 130,365	$ 150,684	$ 210,430
Minus:			
FI Share and other third-party costs(1)	73,247	85,371	118,080
Delivery costs(2)	7,012	10,632	12,893
Gross profit(1)	50,106	54,681	79,457
Plus:			
Delivery costs(2)	7,012	10,632	12,893
Non-cash equity expense included in FI Share(3)	—	2,519	—
Amortization of deferred FI implementation costs(3)	1,626	1,618	2,869
Adjusted contribution(1)	$ 58,744	$ 69,450	$ 95,219

(1) FI Share and other third-party costs, gross profit and adjusted contribution include the impact of a $0.8 million gain during 2018 related to the renewal of our agreement with an FI partner, which contains certain amendments that are retroactively applied as of January 1, 2018.
(2) Stock-based compensation expense recognized in delivery costs totaled $0.2 million, $0.6 million and $0.7 million during 2017, 2018 and 2019, respectively.
(3) Non-cash equity expense included in FI Share and amortization of deferred FI implementation costs are excluded from adjusted FI Share and other third-party costs as follows (in thousands):

	Year Ended December 31,		
	2017	2018	2019
FI Share and other third-party costs	$ 73,247	$ 85,371	$ 118,080
Minus:			
Non-cash equity expense included in FI Share	—	2,519	—
Amortization of deferred FI implementation costs	1,626	1,618	2,869
Adjusted FI Share and other third-party costs	$ 71,621	$ 81,234	$ 115,211

Adjusted EBITDA

Adjusted EBITDA represents our net loss before income tax benefit; interest expense, net; depreciation and amortization expense; stock-based compensation expense; foreign currency (gain) loss; amortization of deferred FI implementation costs; costs associated with financing events; loss on extinguishment of debt; change in fair value of warrant liabilities, net; change in fair value of convertible promissory notes; and a non-cash equity expense recognized in FI Share. We do not consider these excluded items to be indicative of our core operating performance. The items that are non-cash include change in fair value of warrant liabilities, change in fair value of convertible promissory notes, foreign currency (gain) loss, amortization of FI implementation costs, depreciation and amortization expense, stock-based compensation expense and a non-cash equity expense included in FI Share. Notably, any impacts related to minimum FI Share commitments in connection with agreements with certain FI partners are not added back to net loss in order to calculate adjusted EBITDA. Adjusted EBITDA is a key measure used by management to understand and evaluate our core operating performance and trends and to generate future operating plans, make strategic decisions regarding the allocation of capital and invest in initiatives that are focused on cultivating new markets for our solution. In particular, the exclusion of certain expenses in calculating adjusted EBITDA facilitates comparisons of our operating performance on a period-to-period basis. Adjusted EBITDA is not a measure calculated in accordance with GAAP.

We believe that adjusted EBITDA provides useful information to investors and others in understanding and evaluating our operating results in the same manner as our management and board of directors. Nevertheless, use of adjusted EBITDA has limitations as an analytical tool, and you should not consider it in isolation or as a substitute for analysis of our financial results as reported under GAAP. Some of these limitations are: (1) adjusted EBITDA does not reflect changes in, or cash requirements for, our working capital needs; (2) adjusted EBITDA does not reflect the potentially dilutive impact of stock-based compensation and equity instruments issued to our FI partners; (3) adjusted EBITDA does not reflect tax payments or receipts that may represent a reduction or increase in cash available to us and (4) other companies, including companies in our industry, may calculate adjusted EBITDA or similarly titled measures differently, which reduces the usefulness of the metric as a comparative measure. Because of these and other limitations, you should consider adjusted EBITDA alongside our net loss and other GAAP financial results.

The following table presents a reconciliation of adjusted EBITDA to net loss, the most directly comparable GAAP measure, for each of the periods indicated (in thousands):

	Year Ended December 31,		
	2017	**2018**	**2019**
Net loss[(1)]	$ (19,641)	$ (53,042)	$ (17,144)
Plus:			
Income tax benefit	—	—	—
Interest expense, net	8,239	3,264	548
Depreciation and amortization expense	3,028	3,282	4,535
Stock-based compensation expense	5,147	26,790	15,851
Foreign currency (gain) loss	(1,318)	1,172	(781)
Amortization of deferred FI implementation costs	1,626	1,618	2,869
Costs associated with financing events	129	118	123
Loss on extinguishment of debt	—	924	51
Change in fair value of warrant liabilities	581	6,760	—
Change in fair value of convertible promissory notes	(4,969)	—	—
Non-cash equity expense included in FI Share	—	2,519	—
Adjusted EBITDA[(1)]	$ (7,178)	$ (6,595)	$ 6,052

(1) Net loss and adjusted EBITDA include the impact of a $0.8 million gain during 2018 related to the renewal of our agreement with an FI partner, which contains certain amendments that are retroactively applied as of January 1, 2018.

Components of Results of Operations

Revenue

We have historically derived substantially all of our revenue from sales of Cardlytics Direct. We sell our solutions by entering into agreements directly with marketers or their marketing agencies, generally through the execution of insertion orders. The agreements state the terms of the arrangement, the negotiated fee, payment terms and the fixed period of time of the campaign. We invoice marketers monthly based on the qualifying purchases of the FIs' customers as reported by our FI partners during the month. We report our revenue net of Consumer Incentives and gross of FI Share.

Cost and Expense

We classify our expenses into the following categories: FI Share and other third-party costs; delivery costs; sales and marketing expense; research and development expense; general and administrative expense; and depreciation and amortization expense.

FI Share and Other Third-Party Costs

FI Share and other third-party costs consist primarily of the FI Share that we pay our FI partners, media and data costs, the amortization of deferred implementation costs incurred pursuant to our agreements with certain FI partners and a $2.5 million non-cash expense in 2018 related to the vesting of warrants issued to an FI partner that accelerated upon the consummation of our IPO. To the extent that we use a specific FI customer's anonymized purchase data in the delivery of our solutions, we pay the applicable FI partner an FI Share calculated based on the relative contribution of the data provided by the FI partner to the overall delivery of the services. We expect that our FI Share and other third-party costs will increase in absolute dollars as a result of our revenue growth.

Delivery Costs

Delivery costs consist primarily of personnel costs of our campaign, data operations and production support teams, including salaries, benefits, bonuses, stock-based compensation and payroll taxes. Delivery costs also include hosting facility costs, purchased or licensed software costs, outsourcing costs and professional services costs. As we add data center capacity and support personnel in advance of anticipated growth, our delivery costs will increase in absolute dollars and if such anticipated revenue growth does not occur, our delivery costs as a percentage of revenue will be adversely affected. Over time, we expect delivery costs will decline as a percentage of revenue.

Sales and Marketing Expense

Sales and marketing expense consists primarily of personnel costs of our sales, account management, marketing and analytics teams, including salaries, benefits, bonuses, commissions, stock-based compensation and payroll taxes. Sales and marketing expense also includes professional fees, marketing programs such as trade shows, marketing materials, public relations, sponsorships and other brand building expenses, as well as outsourcing costs, travel and entertainment expenses and company funded consumer testing expenses for certain marketers that are not current customers. We expect that our sales and marketing expense will increase in absolute dollars as a result of hiring new sales representatives and as we invest to enhance our brand. Over time, we expect sales and marketing expenses will decline as a percentage of revenue.

Research and Development Expense

Research and development expense consists primarily of personnel costs of our information technology ("IT") engineering, IT architecture and product development teams, including salaries, benefits, bonuses, stock-based compensation and payroll taxes. Research and development expense also includes outsourcing costs, software licensing costs, professional fees and travel expenses. We focus our research and development efforts on improving our solutions and developing new ones. We expect research and development expense to increase in absolute dollars as we continue to create new solutions and improve the functionality of our existing solutions.

General and Administrative Expense

General and administrative expense consists of personnel costs of our executive, finance, legal, compliance, IT support and human resources teams, including salaries, benefits, bonuses, stock-based compensation and payroll taxes. General and administrative expense also includes professional fees for external legal, accounting and consulting services, financing transaction costs, facilities costs such as rent and utilities, royalties, bad debt expense, travel expense, property taxes and franchise taxes. We expect that general and administrative expenses will increase on an absolute dollar basis but decrease as a percentage of revenue as we focus on processes, systems and controls to enable the our internal support functions to scale with the growth of our business.

Depreciation and Amortization Expense

Depreciation and amortization expense includes depreciation of property and equipment over the estimated useful life of the applicable asset as well as amortization of deferred patent costs and capitalized internal-use software development costs.

Interest Expense, Net

Interest expense, net consists of interest incurred on our debt facilities, as well as related discount amortization and financing costs, partially offset by interest income on our cash balances.

Change in Fair Value of Warrant Liabilities

Change in fair value of warrant liabilities represents adjustments to the fair value of certain warrants to purchase either preferred or common stock based upon changes in the fair value of the underlying stock.

Change in Fair Value of Convertible Promissory Notes Including Related Parties

Change in fair value of convertible promissory notes represents adjustments to the fair value of our convertible promissory notes as a result of our election of the fair value option. In May 2017, these convertible promissory notes converted into shares of our redeemable convertible preferred stock.

Other Income (Expense), Net

Other income (expense), net consists primarily of gains and losses on foreign currency transactions and expenses recorded in connection with the extinguishment of debt.

Income Taxes

We have generated losses before income taxes in the U.S., U.K. and most U.S. state income tax jurisdictions. We have generated historical net losses and recorded a full valuation allowance against our deferred tax assets. We expect to maintain a full valuation allowance in the near term. Due to our history of losses and our expectation of maintaining a full valuation allowance, we have not recorded an income tax provision or benefit during the periods presented. Realization of any of our deferred tax assets depends upon future earnings, the timing and amount of which are uncertain.

Results of Operations

The following table sets forth our consolidated statements of operations (in thousands):

	Year Ended December 31,		
	2017	2018	2019
Revenue	$ 130,365	$ 150,684	$ 210,430
Costs and expenses:			
FI Share and other third-party costs	73,247	85,371	118,080
Delivery costs	7,012	10,632	12,893
Sales and marketing expense	31,927	41,878	43,828
Research and development expense	12,150	16,210	11,699
General and administrative expense	20,100	34,228	36,720
Depreciation and amortization expense	3,028	3,282	4,535
Total costs and expenses	147,464	191,601	227,755
Operating loss	(17,099)	(40,917)	(17,325)
Non-operating (expense) income:			
Interest expense, net	(8,239)	(3,264)	(548)
Change in fair value of warrant liabilities, net	(581)	(6,760)	—
Change in fair value of convertible promissory notes	(1,244)	—	—
Change in fair value of convertible promissory notes—related parties	6,213	—	—
Other income (expense), net	1,309	(2,101)	729
Total non-operating (expense) income	(2,542)	(12,125)	181
Loss before income taxes	(19,641)	(53,042)	(17,144)
Income tax benefit	—	—	—
Net loss	$ (19,641)	$ (53,042)	$ (17,144)

The following table sets forth our consolidated statements of operations expressed as a percentage of revenue (percentages may not sum due to rounding):

	Year Ended December 31,		
	2017	2018	2019
Revenue	100 %	100 %	100 %
Costs and expenses:			
FI Share and other third-party costs	56	57	56
Delivery costs	5	7	6
Sales and marketing expense	24	28	21
Research and development expense	9	11	6
General and administration expense	15	23	17
Depreciation and amortization expense	2	2	2
Total costs and expenses	113	127	108
Operating loss	(13)	(27)	(8)
Non-operating (expense) income:			
Interest expense, net	(6)	(2)	—
Change in fair value of warrant liabilities, net	—	(4)	—
Change in fair value of convertible promissory notes	(1)	—	—
Change in fair value of convertible promissory notes—related parties	5	—	—
Other income (expense), net	1	(1)	—
Total non-operating (expense) income	(2)	(8)	—
Loss before income taxes	(15)	(35)	(8)
Income tax benefit	—	—	—
Net loss	(15)%	(35)%	(8)%

Comparison of Year Ended December 31, 2018 and 2019

Revenue

	Year Ended December 31,		Change	
	2018	2019	$	%
	(dollars in thousands)			
Revenue by solution:				
Cardlytics Direct	$ 149,323	$ 210,430	$ 61,107	41 %
Other Platform Solutions	1,361	—	(1,361)	(100)
Total revenue	$ 150,684	$ 210,430	$ 59,746	40 %

Revenue increased by $59.7 million in 2019 compared to 2018, primarily due to a $61.1 million increase in revenue generated from sales of Cardlytics Direct. Of this increase, $13.1 million related to sales of Cardlytics Direct to new marketers, while $48.0 million related to increased sales of Cardlytics Direct to existing marketers.

Costs and Expenses

FI Share and Other Third-Party Costs

	Year Ended December 31,		Change	
	2018	2019	$	%
	(dollars in thousands)			
FI Share and other third-party costs by solution:				
Cardlytics Direct	$ 80,720	$ 115,211	$ 34,491	43 %
Renewal of FI partner agreement	(761)	—	761	(100)
Total Cardlytics Direct	79,959	115,211	35,252	44
Other Platform Solutions	1,275	—	(1,275)	(100)
Other components of FI Share and other third-party costs:				
Non-cash equity expense included in FI Share	2,519	—	(2,519)	(100)
Amortization of deferred FI implementation costs	1,618	2,869	1,251	77
Total FI Share and other third-party costs	$ 85,371	$ 118,080	$ 32,709	38 %
% of revenue	57%	56%		

Cardlytics Direct FI Share and other third-party costs, excluding the impact of the gain related to the renewal of our agreement with an FI partner, increased by $34.5 million during 2019 compared to 2018 primarily due to increased revenue from sales of Cardlytics Direct.

Included in the renewal of our agreement with an FI partner are certain amendments that are retroactively applied as of January 1, 2018, which resulted in a $0.8 million gain during 2018, which reduced FI Share and other third-party costs on our consolidated statement of operations.

Warrants to purchase shares of common stock vested upon the completion of our IPO in February 2018, resulting in a non-cash expense of $2.5 million based on the vesting-date fair value of our common stock underlying these warrants. Since the performance conditions were directly related to revenue-producing activities, we recognized this non-cash expense in FI Share and other third-party costs on our consolidated statement of operations. Refer to Note 11—Fair Value Measurements to our consolidated financial statements for additional information regarding the valuation of the warrants that vested upon the consummation of our IPO.

Agreements with certain FI partners require us to fund the development of specific enhancements. Amortization of deferred FI implementation costs increased by $1.3 million during 2019 compared to 2018 primarily due to an increase in the value of enhancements placed in service by our FI partners.

Delivery Costs

	Year Ended December 31,		Change	
	2018	2019	$	%
	(dollars in thousands)			
Delivery costs	$ 10,632	$ 12,893	$ 2,261	21%
% of revenue	7%	6%		

Delivery costs increased by $2.3 million during 2019 compared to 2018 primarily due to a $1.3 million increase in personnel costs associated with additional headcount to host Cardlytics Direct for certain new FI partners, a $0.9 million increase in hosting-related IT costs and a $0.1 million increase in stock-based compensation expense.

Sales and Marketing Expense

	Year Ended December 31,		Change	
	2018	2019	$	%
	(dollars in thousands)			
Sales and marketing expense	$ 41,878	$ 43,828	$ 1,950	5%
% of revenue	28%	21%		

Sales and marketing expense increased by $2.0 million during 2019 compared to 2018 primarily due to a $6.3 million increase in personnel costs associated with additional headcount, a $0.5 million increase in event hosting and sponsorship, a $0.2 million increase in software licensing fees and a $0.1 million increase in outsourcing costs, offset by a $5.1 million decrease in stock-based compensation expense.

Research and Development Expense

	Year Ended December 31,		Change	
	2018	2019	$	%
	(dollars in thousands)			
Research and development expense	$ 16,210	$ 11,699	$ (4,511)	(28)%
% of revenue	11%	6%		

Research and development expense decreased by $4.5 million during 2019 compared to 2018 primarily due to a $2.5 million decrease in stock-based compensation expense, a $0.4 million decrease in recruiting fees and a $0.1 million decrease in other expense, offset by a $2.0 million increase in capital development and $0.5 million increase in personnel costs.

General and Administrative Expense

	Year Ended December 31,		Change	
	2018	2019	$	%
	(dollars in thousands)			
General and administration expense	$ 34,228	$ 36,720	$ 2,492	7%
% of revenue	23%	17%		

General and administrative expense increased by $2.5 million during 2019 compared to 2018 primarily due to a $1.8 million increase in personnel costs associated with additional headcount, a $1.6 million increase in software licensing fees, a $1.2 million increase in insurance premiums, a $0.7 million increase in professional fees, a $0.3 million increase in travel costs and $0.3 million increase in other costs such as facility costs and non-income based taxes, offset by a $3.4 million decrease in stock-based compensation expense.

Stock-based Compensation Expense

The following table summarizes the allocation of stock-based compensation in the consolidated statements of operations (dollars in thousands):

	Year Ended December 31,		Change	
	2018	2019	$	%
Delivery costs	$ 633	$ 711	$ 78	12 %
Sales and marketing expense	9,358	4,248	(5,110)	(55)
Research and development expense	4,087	1,619	(2,468)	(60)
General and administrative expense	12,712	9,273	(3,439)	(27)
Total stock-based compensation expense	$ 26,790	$ 15,851	$ (10,939)	(41)%
% of revenue	18%	8%		

Stock-based compensation expense decreased by $10.9 million during 2019 compared to 2018 primarily due to an decrease in expense relating to performance-based restricted stock units ("PSUs"). During 2019, we recognized $7.6 million of expense related to PSUs compared to $18.6 million of expense in 2018. All performance conditions associated with the 2018 PSUs, as defined below, were achieved in 2018, resulting in the recognition of all stock-based compensation expense related to the awards.

Depreciation and Amortization Expense

	Year Ended December 31,		Change	
	2018	2019	$	%
	(dollars in thousands)			
Depreciation and amortization expense	$ 3,282	$ 4,535	$ 1,253	38%
% of revenue	2%	2%		

Depreciation and amortization expense increased by $1.3 million during 2019 compared to 2018 due to an increase in hosting related computer equipment.

Interest Expense, Net

	Year Ended December 31,		Change	
	2018	2019	$	%
	(dollars in thousands)			
Interest expense	$ (3,990)	$ (1,377)	$ 2,613	(65)%
Interest income	726	829	103	14
Interest expense, net	$ (3,264)	$ (548)	$ 2,716	(83)%
% of revenue	(2)%	— %		

Interest expense, net decreased by $2.7 million during 2019 compared to 2018 primarily due to the lower interest rates under our current loan facility compared to our prior facility. Interest income increased $0.1 million during 2019 compared to 2018 due to increased cash deposits subsequent to our IPO in 2018 and our public equity offering in 2019.

Change in Fair Value of Warrant Liabilities

	Year Ended December 31,		Change	
	2018	2019	$	%
	(dollars in thousands)			
Change in fair value of warrant liabilities	$ (6,760)	$ —	$ 6,760	(100)%
% of revenue	(4)%	—%		

Change in fair value of warrant liabilities reflect the changes in the value of our redeemable convertible preferred stock and common stock. Refer to Note 11 —Fair Value Measurements to our consolidated financial statements for additional information regarding the valuation of our warrant liabilities.

Other (Expense) Income, Net

	Year Ended December 31,		Change	
	2018	2019	$	%
	(dollars in thousands)			
Foreign currency (loss) gain	$ (1,172)	$ 781	$ 1,953	(167)%
Loss on extinguishment of debt	(924)	(51)	873	(94)
Other expense	5	1	(4)	(80)
Other (expense) income, net	$ (2,101)	$ 729	$ 2,830	(135)%
% of revenue	(1)%	—%		

The change in other (expense) income, net was primarily due to an increase in the value of the British pound relative to the U.S. dollar. During 2018, we also recognized a $0.9 million loss on extinguishment of debt related to the unamortized discount and unamortized debt issuance costs associated with our prior line of credit and prior term loan.

Comparison of Year Ended December 31, 2017 and 2018

Revenue

	Year Ended December 31,		Change	
	2017	2018	$	%
	(dollars in thousands)			
Revenue by solution:				
Cardlytics Direct	$ 122,391	$ 149,323	$ 26,932	22 %
Other Platform Solutions	7,974	1,361	(6,613)	(83)
Total revenue	$ 130,365	$ 150,684	$ 20,319	16 %

Revenue increased by $20.3 million in 2018 compared to 2017, primarily due to a $26.9 million increase in revenue generated from sales of Cardlytics Direct. Of this increase, $7.1 million related to sales of Cardlytics Direct to new marketers, while $19.8 million related to increased sales of Cardlytics Direct to existing marketers. Revenue from Other Platform Solutions during 2017 consisted substantially of revenue from sales of our Other Platform Solutions delivered as a managed service, which was discontinued as in July 2017.

Costs and Expenses

FI Share and Other Third-Party Costs

	Year Ended December 31,		Change	
	2017	2018	$	%
	(dollars in thousands)			
FI Share and other third-party costs by solution:				
Cardlytics Direct	$ 67,207	$ 80,720	$ 13,513	20 %
Renewal of FI partner agreement	—	(761)	(761)	n/a
Total Cardlytics Direct	67,207	79,959	12,752	19
Other Platform Solutions	4,414	1,275	(3,139)	(71)
Other components of FI Share and other third-party costs:				
Non-cash equity expense included in FI Share	—	2,519	2,519	n/a
Amortization and impairment of deferred FI implementation costs	1,626	1,618	(8)	—
Total FI Share and other third-party costs	$ 73,247	$ 85,371	$ 12,124	17 %
% of revenue	56%	57%		

Cardlytics Direct FI Share and other third-party costs, excluding the impact of the gain related to the renewal of our agreement with an FI partner, increased by $13.5 million during 2018 compared to 2017 primarily due to increased revenue from sales of Cardlytics Direct.

Included in the renewal of our agreement with an FI partner are certain amendments that are retroactively applied as of January 1, 2018, which resulted in a $0.8 million gain during 2018, which reduced FI Share and other third-party costs on our consolidated statement of operations.

Other Platform Solutions FI Share and other third-party costs decreased during 2018 as we discontinued delivering Other Platform Solutions as a managed service as of July 31, 2017.

Warrants to purchase shares of common stock vested upon the completion of our IPO in February 2018, resulting in a non-cash expense of $2.5 million based on the vesting-date fair value of our common stock underlying these warrants. Since the performance conditions were directly related to revenue-producing activities, we recognized this non-cash expense in FI Share and other third-party costs on our consolidated statement of operations. Refer to Note 11—Fair Value Measurement to our consolidated financial statements for additional information regarding the valuation of the warrants that vested upon the consummation of our IPO.

Delivery Costs

	Year Ended December 31,		Change	
	2017	2018	$	%
	(dollars in thousands)			
Delivery costs	$ 7,012	$ 10,632	$ 3,620	52%
% of revenue	5%	7%		

Delivery costs increased by $3.6 million during 2018 compared to 2017 primarily due to a $2.5 million increase in personnel costs associated with additional headcount to host Cardlytics Direct for certain new FI partners, a $0.6 million increase in hosting-related IT costs, a $0.4 million increase in stock-based compensation expense and a $0.1 million increase in professional fees.

Sales and Marketing Expense

	Year Ended December 31,		Change	
	2017	2018	$	%
	(dollars in thousands)			
Sales and marketing expense	$ 31,927	$ 41,878	$ 9,951	31%
% of revenue	24%	28%		

Sales and marketing expense increased by $10.0 million during 2018 compared to 2017 primarily due to a $7.5 million increase in stock-based compensation expense, a $2.0 million increase in personnel costs associated with additional headcount, a $0.1 million increase in recruiting fees, a $0.1 million increase in travel costs and $0.1 million increase in software costs.

Research and Development Expense

	Year Ended December 31,		Change	
	2017	2018	$	%
	(dollars in thousands)			
Research and development expense	$ 12,150	$ 16,210	$ 4,060	33%
% of revenue	9%	11%		

Research and development expense increased by $4.1 million during 2018 compared to 2017 primarily due to a $3.1 million increase in stock-based compensation expense, a $1.0 million increase in personnel costs associated with higher research and development headcount, a $0.3 million increase in recruiting fees and a $0.1 million increase in IT costs, partially offset by a $0.5 million decrease in outsourcing costs.

General and Administrative Expense

	Year Ended December 31,		Change	
	2017	2018	$	%
	(dollars in thousands)			
General and administrative expense	$ 20,100	$ 34,228	$ 14,128	70%
% of revenue	15%	23%		

General and administrative expense increased by $14.1 million during 2018 compared to 2017 primarily due to a $10.6 million increase in stock-based compensation expense, a $0.9 million increase in personnel costs associated with higher general and administrative headcount, a $0.8 million increase in software license fees, a $0.9 million increase in professional fees, a $0.6 million in increase in insurance premiums, a $0.1 million increase in travel costs and $0.1 million increase in other costs such as facility costs and non-income based taxes.

Stock-based Compensation Expense

The following table summarizes the allocation of stock-based compensation in the consolidated statements of operations (in thousands):

	Year Ended December 31,		Change	
	2017	2018	$	%
Delivery costs	$ 202	$ 633	$ 431	213%
Sales and marketing expense	1,894	9,358	7,464	394
Research and development expense	951	4,087	3,136	330
General and administrative expense	2,100	12,712	10,612	505
Total stock-based compensation expense	$ 5,147	$ 26,790	$ 21,643	420%
% of revenue	4%	18%		

Stock-based compensation expense increased by $21.6 million during 2018 compared to 2017 primarily due to the recognition of expense totaling $18.6 million relating to the 2018 PSUs. All performance conditions associated with the 2018 PSUs were achieved in 2018, resulting in the recognition of all stock-based compensation expense related to the awards. The remaining $3.0 million increase in expense is largely attributed to changes in equity compensation strategies subsequent to our IPO.

Depreciation and Amortization Expense

	Year Ended December 31,		Change	
	2017	2018	$	%
	(dollars in thousands)			
Depreciation and amortization expense	$ 3,028	$ 3,282	$ 254	8%
% of revenue	2%	2%		

Depreciation and amortization expense increased by $0.3 million during 2018 compared to 2017 due to an increase in hosting related computer equipment and our suspension of efforts to obtain certain patents, resulting in the write off of deferred patent costs in 2018.

Interest Expense, Net

	Year Ended December 31,		Change	
	2017	2018	$	%
	(dollars in thousands)			
Interest expense	$ (8,332)	$ (3,990)	$ 4,342	(52)%
Interest income	93	726	633	681
Interest expense, net	$ (8,239)	$ (3,264)	$ 4,975	(60)%
% of revenue	(6)%	(2)%		

Interest expense, net decreased by $5.0 million during 2018 compared to 2017 primarily due to the conversion of our convertible promissory notes into shares of our redeemable convertible preferred stock in May 2017 and lower interest rates under our new loan facility. Interest income increased $0.6 million during 2018 compared to 2017 due to increased cash deposits subsequent to our IPO.

Change in Fair Value of Warrant Liability

	Year Ended December 31,		Change	
	2017	2018	$	%
	(dollars in thousands)			
Change in fair value of warrant liability	$ (581)	$ (6,760)	$ (6,179)	1,064%
% of revenue	— %	(4)%		

Change in fair value of warrant liabilities reflect the changes in the value of our redeemable convertible preferred stock and common stock. Refer to Note 11—Fair Value Measurements to our consolidated financial statements for additional information regarding the valuation of our warrant liabilities.

Change in Fair Value of Convertible Promissory Notes

	Year Ended December 31,		Change	
	2017	2018	$	%
	(dollars in thousands)			
Change in fair value of convertible promissory notes	$ (1,244)	$ —	$ 1,244	(100)%
% of revenue	(1)%	—%		

Change in fair value of convertible promissory notes reflects the change in the value of our convertible promissory notes, which was driven by periodic valuations. In May 2017, these convertible promissory notes converted into shares of our redeemable convertible preferred stock. Refer to Note 11—Fair Value Measurements to our consolidated financial statements for additional information regarding the valuation of our convertible promissory notes.

Change in Fair Value of Convertible Promissory Notes—Related Parties

	Year Ended December 31,		Change	
	2017	2018	$	%
	(dollars in thousands)			
Change in fair value of convertible promissory notes—related parties	$ 6,213	$ —	$ (6,213)	(100)%
% of revenue	5%	—%		

Change in fair value of convertible promissory notes reflects the change in the value of our convertible promissory notes, which was driven by periodic valuations. In May 2017, these convertible promissory notes converted into shares of our redeemable convertible preferred stock. Refer to Note 11—Fair Value Measurements to our consolidated financial statements for additional information regarding the valuation of our convertible promissory notes.

Other Income (Expense), Net

	Year Ended December 31,		Change	
	2017	2018	$	%
	(dollars in thousands)			
Foreign currency gain (loss)	$ 1,318	$ (1,172)	$ (2,490)	(189)%
Loss on extinguishment of debt	—	(924)	(924)	n/a
Other expense	9	5	(4)	(44)
Other income (expense), net	$ 1,309	$ (2,101)	$ (3,410)	(261)%
% of revenue	1%	(1)%		

Other income (expense), net decreased $3.4 million during 2018 compared to 2017 primarily due to a decrease in the value of the British pound relative to the U.S. dollar. During 2018, we also recognized a $0.9 million loss on extinguishment of debt related to the unamortized discount and unamortized debt issuance costs associated with the 2016 Line of Credit and 2016 Term Loan, as defined in Note 6—Debt.

Quarterly Results of Operations

We have prepared the below quarterly financial data on the same basis as the audited consolidated financial statements included in this Annual Report. In our opinion, the quarterly financial data reflects all adjustments, consisting only of normal recurring adjustments that we consider necessary for a fair presentation of this data. This quarterly financial data should be read in conjunction with our consolidated financial statements and related notes included elsewhere in this Annual Report. Our historical results are not necessarily indicative of the results to be expected in the future.

The following table sets forth our unaudited quarterly consolidated statements of operations data for each of our eight most recently completed quarters (in thousands, except per share amount):

	Three Months Ended							
	Mar 31, 2018	Jun 30, 2018	Sept 30, 2018	Dec 31, 2018	Mar 31, 2019	Jun 30, 2019	Sept 30, 2019	Dec 31, 2019
Revenue by solution:								
Cardlytics Direct	$ 32,121	$ 35,098	$ 34,420	$ 47,684	$ 35,988	$ 48,730	$ 56,419	$ 69,293
Other Platform Solutions	592	472	162	135	—	—	—	—
Total revenue	32,713	35,570	34,582	47,819	35,988	48,730	56,419	69,293
Costs and expenses:								
FI Share and other third-party costs	21,420	19,747	17,982	26,222	19,004	27,620	32,470	38,986
Delivery costs(1)	1,943	2,559	3,007	3,123	3,246	3,370	3,070	3,207
Sales and marketing expense(1)	8,216	10,247	9,452	13,963	9,337	11,047	11,074	12,370
Research and development expense(1)	3,459	4,888	4,097	3,766	2,941	2,782	3,018	2,958
General and administration expense(1)	6,582	8,979	7,925	10,742	7,000	8,340	12,218	9,162
Depreciation and amortization expense	910	784	777	811	961	1,053	1,167	1,354
Total costs and expenses	42,530	47,204	43,240	58,627	42,489	54,212	63,017	68,037
Operating loss	(9,817)	(11,634)	(8,658)	(10,808)	(6,501)	(5,482)	(6,598)	1,256
Non-operating (expense) income:								
Interest expense, net	(1,749)	(992)	(254)	(269)	(304)	(338)	(218)	312
Change in fair value of warrant liability, net	(9,172)	1,611	801	—	—	—	—	—
Other income (expense), net	683	(2,038)	(257)	(489)	491	(690)	(931)	1,859
Total non-operating (expense) income	(10,238)	(1,419)	290	(758)	187	(1,028)	(1,149)	2,171
Loss before income taxes	(20,055)	(13,053)	(8,368)	(11,566)	(6,314)	(6,510)	(7,747)	3,427
Income tax benefit	—	—	—	—	—	—	—	—
Net (loss) income	(20,055)	(13,053)	(8,368)	(11,566)	(6,314)	(6,510)	(7,747)	3,427
Adjustments to the carrying value of redeemable convertible preferred stock	(157)	—	—	—	—	—	—	—
Net loss attributable to common stockholders	$ (20,212)	$ (13,053)	$ (8,368)	$ (11,566)	$ (6,314)	$ (6,510)	$ (7,747)	$ 3,427
Net loss per share attributable to common stockholders, basic	$ (1.54)	$ (0.64)	$ (0.40)	$ (0.53)	$ (0.28)	$ (0.29)	$ (0.33)	$ 0.13
Net loss per share attributable to common stockholders, diluted	$ (1.54)	$ (0.64)	$ (0.40)	$ (0.53)	$ (0.28)	$ (0.29)	$ (0.33)	$ 0.12

(1) Includes stock-based compensation expense as follows (in thousands):

	Three Months Ended							
	Mar 31, 2018	Jun 30, 2018	Sept 30, 2018	Dec 31, 2018	Mar 31, 2019	Jun 30, 2019	Sept 30, 2019	Dec 31, 2019
Delivery costs	$ 85	$ 183	$ 203	$ 162	$ 164	$ 199	$ 176	$ 172
Sales and marketing expense	43	2,668	1,939	3,808	707	952	1,432	1,157
Research and development expense	470	1,756	915	946	203	363	638	415
General and administration expense	1,402	3,738	2,666	4,906	634	1,558	5,240	1,841
Total stock-based compensation expense	$ 2,900	$ 8,345	$ 5,723	$ 9,822	$ 1,708	$ 3,072	$ 7,486	$ 3,585

Quarterly Trends

Revenue

Our revenue has generally increased over the past eight quarters, driven primarily by increased sales to new marketers and increased sales to existing marketers. Our revenue also varies from quarter to quarter due to the seasonal nature of our marketers' advertising spending. Many marketers tend to devote a significant portion of their marketing budgets to the fourth quarter of the calendar year to coincide with consumer holiday spending and reduce marketing spend in the first quarter of the calendar year.

Costs and Expenses and Non-operating (Expense) Income

FI Share and other third-party costs are directly related to the amount of revenue that we generate, and therefore increased as our revenue increased. Our increased operating expenses reflect increases in headcount, increases in stock-based compensation expense, investments related to the implementation and hosting of new FI partners and costs associated with being a publicly traded company. Fluctuations in total non operating (expense) income were primarily driven by changes in the fair value of our warrant liability, foreign currency gains and losses and a $0.9 million loss on extinguishment of debt in the second quarter of 2018.

Segment Information

We have two reportable segments: Cardlytics Direct and Other Platform Solutions, as determined by the information that both our Chief Executive Officer and President and Chief Operating Officer, who we consider our chief operating decision makers, use to make strategic goals and operating decisions. Our Cardlytics Direct segment represents our proprietary native bank advertising channel. Our Other Platform Solutions segment represents solutions that enable marketers and marketing service providers to leverage the power of purchase intelligence outside the banking channel.

In early 2018, we began a strategic shift to focus the majority of our efforts and resources to support the growth of Cardlytics Direct. As a result, we do not expect to generate substantial, if any, revenue from Other Platform Solutions for the foreseeable future.

Critical Accounting Policies

Our consolidated financial statements are prepared in accordance with GAAP. The preparation of our consolidated financial statements requires us to make estimates, assumptions and judgments that affect the reported amounts of assets, liabilities, revenue, costs and expenses. We base our estimates and assumptions on historical experience and other factors that we believe to be reasonable under the circumstances. We evaluate our estimates and assumptions on an ongoing basis. Our actual results may differ from these estimates. Our most critical accounting policies are summarized below. Refer to the notes to our consolidated financial statements for additional information.

Revenue Recognition

We determine revenue recognition through the following steps:

- identification of a contract with a customer,
- identification of the performance obligation(s) in the contract,
- determination of the transaction price,
- allocation of the transaction price to the performance obligation(s) in the contract, and
- recognition of revenue when or as the performance obligation(s) are satisfied.

We sell our solutions by entering into agreements directly with marketers or their marketing agencies, generally through the execution of insertion orders. The agreements state the terms of the arrangement, the negotiated fee, payment terms and the fixed period of time of the campaign. We consider a contract to exist when a campaign, which typically lasts 45 days, is published to an FI partner under the terms of an insertion order.

With respect to our Cardlytics Direct service, our performance obligation is to offer incentives to FIs' customers to make purchases from the marketer within a specified period. This performance obligation is a series that represents a stand ready obligation to provide a targeted campaign for the marketer to FIs' customers. Cardlytics Direct fees represent variable consideration that is resolved when FIs' customers make qualifying purchases during the marketing campaign term.

Subsequent to a qualifying purchase, the associated fees are generally not subject to refund or adjustment unless the fees from the marketing campaign exceed a contractual maximum (marketer budget). We have not constrained our revenue because adjustments have historically been immaterial and given the short duration of our marketing campaigns, any adjustments are recognized during the period of the marketing campaign. We recognize revenue for Cardlytics Direct fees over time using the right to invoice practical expedient because the amount billed is equal to the value delivered to marketers through qualified purchases by FIs' customers during that period.

Consumer Incentives

We report our revenue on our consolidated statements of operations net of Consumer Incentives. We do not provide the goods or services that are purchased by our FIs' customers from the marketers to which the Consumer Incentives relate. Accordingly, the marketer is deemed to be the principal in the relationship with the customer and, therefore, the Consumer Incentive is deemed to be a reduction in the purchase price paid by the customer for the marketer's goods or services. While we are responsible for remitting Consumer Incentives to our FI partners for further payment to their customers, we function solely as an agent of marketers in these arrangements.

We invoice marketers monthly based on the qualifying purchases of FIs' customers as reported by our FI partners during the month. Invoice payment terms, negotiated on a marketer-by-marketer basis, are typically between 30 to 60 days. However, for certain marketing agencies with sequential liability terms, payments are not due to us until such marketing agency has received payment from its marketer client. Accounts receivable is recorded at the amount of gross billings to marketers, net of allowances, for the fees and Consumer Incentives that we are responsible to collect. Our accrued liabilities also include the amount of Consumer Incentives due to FI partners. As a result, accounts receivable and accrued liabilities may appear large in relation to revenue, which is reported on a net basis. During 2017, 2018 and 2019, Consumer Incentives totaled $61.2 million, $68.3 million and $105.6 million, respectively.

FI Share and Other Third-Party Costs

We report our revenue on our consolidated statements of operations gross of FI Share. FI Share costs are included in FI Share and other third-party costs in our consolidated statements of operations, rather than as a reduction of revenue, because we and not our FI partners act as the principal in our arrangements with marketers. We are responsible for the fulfillment and acceptability of the services purchased by marketers. We also have latitude in establishing the price of our services, have discretion in supplier selection and earn variable amounts. FI partners only supply consumer purchase data and digital marketing space and generally have no involvement in the marketing campaigns or contractual relationship with marketers.

Income Taxes

Income taxes are accounted for using the asset and liability method. Under this method, deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective income tax bases, and operating loss and tax credit carryforwards. Valuation allowances are provided when we determine that it is more likely than not that all of, or a portion of, deferred tax assets will not be utilized in the future.

Significant judgment is required in determining any valuation allowance recorded against deferred tax assets. In assessing the need for a valuation allowance, we consider all available evidence, including past operating results, estimates of future taxable income and the feasibility of tax planning strategies. In the event that we change our determination as to the amount of deferred tax assets that can be realized, we will adjust our valuation allowance with a corresponding impact to the provision for income taxes in the period in which such determination is made.

Estimates of future taxable income are based on assumptions that are consistent with our plans. Assumptions represent management's best estimates and involve inherent uncertainties and the application of management's judgment. If actual amounts differ from our estimates, the amount of our tax expense and liabilities could be materially impacted.

We have recorded a full valuation allowance related to our deferred tax assets due to the uncertainty of the ultimate realization of the future benefits of those assets.

We recognize the tax effects of an uncertain tax position only if it is more likely than not to be sustained based solely on its technical merits as of the reporting date, and then, only in an amount more likely than not to be sustained upon review by the tax authorities. Where applicable, we classify associated interest and penalties as income tax expense. The total amounts of interest and penalties were not material. We consider many factors when evaluating and estimating our tax positions and tax benefits, which may require periodic adjustments and which may not accurately anticipate actual outcomes.

Fair Value Assumptions

Stock-based Compensation

We measure and recognize compensation expense based on the estimated fair value of the award on the grant date. The fair value is recognized as expense over the requisite service period, which is generally the vesting period of the respective award, on a straight-line basis when the only condition to vesting is continued service. We recognize the fair value of awards that contain performance conditions based upon the probability of the performance conditions being met. Expense for awards with performance conditions are estimated and adjusted on a quarterly basis based upon our assessment of the probability that the performance condition will be met. We recognize the fair value of awards that contain market conditions over the derived service period. Forfeitures are accounted for when they occur. Refer to Note 7—Stock-based Compensation for additional information regarding our specific award plans and estimates and assumptions used to determine fair value.

The determination of the grant date fair value of options using an option pricing model is affected principally by our estimated common stock fair value and requires management to make a number of other assumptions, including the expected life of the option, the volatility of the underlying stock, the risk-free interest rate and expected dividends. The assumptions used in our Black-Scholes option-pricing model represent management's best estimates at the time of grant. These estimates are complex, involve a number of variables, uncertainties and assumptions and the application of management's judgment, as they are inherently subjective. If any assumptions change, our stock-based compensation expense could be materially different in the future.

Convertible Promissory Notes

The redemption features included in the terms of our convertible promissory notes were determined to be derivative liabilities due to a significant discount within the redemption features for the note holders. Embedded derivatives that are not clearly and closely related to the host contract are required to be bifurcated and recorded at fair value unless the fair value option is elected on the host contract. Under the fair value option, bifurcation of the embedded derivative is not necessary as all related gains (losses) on the host contract and derivative will be reflected in the consolidated statements of operations. We elected the fair value option for our convertible promissory notes and changes in fair value of our convertible promissory notes are included in change in fair value of convertible promissory notes on our consolidated statements of operations.

To determine the fair value of our convertible promissory notes, we utilized key assumptions from the PWERM, as shown above. Under this method, we considered the redemption features of the convertible promissory notes, as described in Note 6—Debt to our consolidated financial statements appearing elsewhere in this Annual Report, to determine the fair value under discrete future outcomes, including IPO and non-IPO scenarios. We weighted the fair values based on the estimated probability of each scenario to determine the overall fair value of the convertible promissory notes as of the balance sheet date. Refer to Note 11—Fair Value Measurements to our consolidated financial statements for additional information on our valuation methodology.

Preferred Stock Warrants

We derived the fair value of the preferred stock warrants using key assumptions from the PWERM, as shown above, and an interpolation methodology that considered the timing of future potential liquidity events, changes to our forecasted financial results and changes in the valuation of comparable companies to determine the fair value of the warrants to purchase shares of our Series B-R redeemable convertible preferred stock and Series D-R redeemable convertible preferred stock. Refer to Note 11—Fair Value Measurements to our consolidated financial statements for additional information on our valuation methodology.

Common Stock Warrants

To determine the fair value of our common stock warrants issued in connection with our Series G preferred stock financing, we utilized a Monte Carlo simulation, which allows for the modeling of complex securities and evaluates many possible outcomes to forecast the stock price of the company post-IPO. As part of the valuation, we considered various scenarios related to the pricing, timing and probability of an IPO. Refer to Note 11—Fair Value Measurements to our consolidated financial statements for additional information on our valuation methodology.

Recent Accounting Pronouncements

Refer to Note 3—Accounting Standards to our consolidated financial statements for additional information.

Liquidity and Capital Resources

The following table summarizes our cash and cash equivalents, restricted cash, accounts receivable, working capital, total debt and unused available borrowings (in thousands):

	December 31,	
	2018	2019
Cash and cash equivalents	$ 39,623	$ 104,458
Restricted cash	20,247	129
Accounts receivable, net	58,125	81,452
Working capital[(1)]	72,446	117,593
Total debt (including capital leases)	46,714	37
Unused available borrowings	3,300	40,000

(1) We define working capital as current assets less current liabilities. See our consolidated financial statements for further details regarding our current assets and current liabilities.

Our unrestricted cash and cash equivalents as of December 31, 2019 are available for working capital purposes. Restricted cash primarily represents deposits held in an account controlled by our lender as additional security for our payment obligations under our 2018 Loan Facility. We do not enter into investments for trading purposes, and our investment policy is to invest any excess cash in short term, highly liquid investments that limit the risk of principal loss; therefore, our cash, cash equivalents and restricted cash are held in demand deposit accounts upon which we earn up to a 1.4% annual rate of interest. As of December 31, 2019, we had $4.8 million in cash and cash equivalents in the U.K. While our investment in Cardlytics UK Limited is not considered indefinitely invested, we do not plan to repatriate these funds.

Through December 31, 2019, we have incurred accumulated net losses of $338.6 million since inception, including losses of $19.6 million, $53.0 million and $17.1 million during 2017, 2018 and 2019, respectively. We expect to incur additional operating losses as we continue our efforts to grow our business. We have historically financed our operations and capital expenditures through convertible note financings, private placements of our redeemable convertible preferred stock, public offerings of our common stock as well as lines of credit and term loans. Through December 31, 2019, we have received net proceeds of $196.2 million from the issuance of preferred stock and convertible promissory notes and net proceeds of $127.1 million from public equity offerings. Our historical uses of cash have primarily been to fund our operating losses and working capital needs.

During 2018, scheduled development payments to a certain FI partner totaled $9.3 million, which was offset by recoveries through FI Share payment reductions of $4.6 million in 2019.

Our future capital requirements will depend on many factors, including our growth rate, the timing and extent of spending to support research and development efforts, the continued expansion of sales and marketing activities, the enhancement of our platform, the introduction of new solutions and the continued market acceptance of our solutions. We expect to continue to incur operating losses for the foreseeable future and may require additional capital resources to continue to grow our business. We believe that current cash and cash equivalents will be sufficient to fund our operations and capital requirements for at least the next 12 months following the date our consolidated financial statements were issued. In the event that additional financing is required from outside sources, we may not be able to raise such financing on terms acceptable to us or at all.

Sources of Funds

Proceeds from Issuance of Common Stock

On February 13, 2018, we closed our initial public offering (“IPO”), in which we issued and sold 5,400,000 shares of common stock at a public offering price of $13.00 per share, resulting in gross proceeds of $70.2 million. On February 14, 2018, pursuant to the underwriters’ partial exercise of their over-allotment option to purchase up to an additional 810,000 shares from us, we issued and sold an additional 421,355 shares of our common stock, resulting in additional gross proceeds to us of $5.5 million. In total, we issued 5,821,355 shares of common stock and raised $75.7 million in gross proceeds, or $66.1 million in net proceeds after deducting underwriting discounts and commissions of $5.3 million and offering costs of $4.3 million.

On September 13, 2019, we closed a public equity offering in which we sold 1,904,154 shares of common stock, which included 404,154 shares sold pursuant to the exercise by the underwriters of an option to purchase additional shares, at a public offering price of $34.00 per share. We received total net proceeds of $61.3 million after deducting underwriting discounts and commissions of $3.2 million and offering costs of $0.2 million. Selling stockholders, including certain of our executive officers and entities affiliated with certain of our directors, sold 1,194,365 shares of common stock in the offering at a public offering price of $34.00. We did not receive any proceeds from the sale of common stock by the selling stockholders.

During 2017, 2018 and 2019, we also received $0.2 million, $2.0 million and $29.7 million in proceeds from the exercise of options and warrants to purchase shares of common stock, respectively.

Series G Preferred Stock Financing

In May 2017, we sold an aggregate of 346,334 shares of our Series G redeemable convertible preferred stock, including to certain of our existing stockholders, at a price of $34.48 per share for aggregate gross proceeds of approximately $11.9 million. Refer to Note 9—Redeemable Convertible Preferred Stock for additional information regarding the Series G Stock financing.

Existing Stockholder Notes

During 2016, we issued unsecured convertible promissory notes to certain of our existing stockholders with an aggregate principal amount of $27.0 million ("Existing Stockholder Notes"). Refer to Note 9—Redeemable Convertible Preferred Stock for additional information regarding the Series G Stock financing and the transactions that resulted in the conversion of the Existing Stockholder Notes into shares of our Series G' Stock.

2018 Loan Facility

On May 21, 2018, we entered into a Loan and Security Agreement with Pacific Western Bank (the "Lender") consisting of a $30.0 million asset–based revolving line of credit ("2018 Line of Credit") and a $20.0 million term loan ("2018 Term Loan") (collectively, the "2018 Loan Facility"). We used the entire $20.0 million in proceeds from the 2018 Term Loan and an advance of $27.4 million under the 2018 Line of Credit to repay all outstanding obligations under our prior line of credit and term loan.

On May 14, 2019, we amended our 2018 Loan Facility to increase the capacity of the 2018 Line of Credit from $30.0 million to $40.0 million and decrease the capacity of our 2018 Term Loan from $20.0 million to $10.0 million. This amendment also extended the maturity date of the 2018 Loan Facility from May 21, 2020 to May 14, 2021. We repaid $10.0 million of the principal balance of the 2018 Term Loan upon the execution of the amendment in May 2019 and repaid the remaining $10.0 million principal balance in September 2019. As of December 31, 2019, we had $40.0 million of unused borrowings available under our 2018 Line of Credit.

The 2018 Loan Facility contains moving trailing 12-month billing covenants, which range from $210.0 million to $255.0 million, during the term of the facility. The moving 12-month billings covenant was $240.0 million for December 2019. The 2018 Loan Facility also requires us to maintain a total cash balance plus liquidity under the 2018 Line of Credit of not less than $5.0 million.

Under the 2018 Loan Facility relating to the 2018 Line of Credit, we are able to borrow up to the lesser of $40.0 million or 85% of the amount of our eligible accounts receivable. Interest on advances under the 2018 Line of Credit bears an interest rate equal to the prime rate minus 0.50%, or 4.25% as of December 31, 2019. In addition, we are required to pay an unused line fee of 0.15% per annum on the average daily unused amount of the $40.0 million revolving commitment. Interest accrued on the 2018 Term Loan at an annual rate of interest equal to the prime rate minus 2.75%, or 2.00% at the date of repayment in September 2019.

The 2018 Loan Facility includes customary representations, warranties and covenants (affirmative and negative), including restrictive covenants that prohibits mergers, acquisitions and dispositions of assets, incurrence of indebtedness and encumbrances on our assets and the payment or declaration of dividends; in each case subject to specified exceptions.

The 2018 Loan Facility also includes standard events of default, including in the event of a material adverse change. Upon the occurrence of an event of default, the lender may declare all outstanding obligations immediately due and payable and take such other actions as are set forth in the 2018 Loan Facility and increase the interest rate otherwise applicable to advances under the 2018 Line of Credit by an additional 3.00%. All of our obligations under the 2018 Loan Facility are secured by a first priority lien on substantially all of our assets. The 2018 Loan Facility does not include any prepayment penalties.

We believe we were in compliance with all financial covenants as of December 31, 2019.

Uses of Funds

Our collection cycles can vary from period to period based on the payment practices of our marketers and their agencies. We are generally obligated to pay Consumer Incentives with respect to our Cardlytics Direct solution between one and three months following redemption, regardless of whether we have collected payment from a marketer or its agency. We are generally obligated to pay our FI partners' FI Share by the end of the month following our collection of payment from the applicable marketer or its agency. As a result, timing of cash receipts from our marketers can significantly impact our operating cash flows for any period. Further, the timing of payment of commitments and implementation fees to our FI partners may also result in variability of our operating cash flows for any period.

Our operating cash flows also vary from quarter to quarter due to the seasonal nature of our marketers' advertising spending. Many marketers tend to devote a significant portion of their marketing budgets to the fourth quarter of the calendar year to coincide with consumer holiday spending and reduce marketing spend in the first quarter of the calendar year. Any lag between the timing of our payments to FI partners and our receipt of payment from marketers and their agencies can exacerbate our need for working capital during the first quarter of the calendar year.

Historical Cash Flows

The following table shows a summary of our cash flows for the periods presented (in thousands):

	Year Ended December 31,		
	2017	**2018**	**2019**
Cash, cash equivalents and restricted cash at beginning of period	$ 22,968	$ 21,262	$ 59,870
Net cash (used in) provided by operating activities	(22,102)	(18,995)	11,457
Net cash used in investing activities	(1,647)	(7,342)	(11,020)
Net cash provided by financing activities	21,761	65,191	44,179
Effect of exchange rates on cash, cash equivalents and restricted cash	282	(246)	101
Cash, cash equivalents and restricted cash at end of period	$ 21,262	$ 59,870	$ 104,587

Operating Activities

Historically, we have experienced negative operating cash flows, which reflects our investments to grow our business. Over time, we expect our business to generate positive operating cash flows. Given the seasonal nature of our marketer's advertising spending and our continued investment in our business, we may experience periods of negative operating cash flows from operations.

Operating activities provided $11.5 million of cash in 2019, which reflected our net loss of $17.1 million offset by $24.0 million of non-cash charges and a $4.6 million change in our net operating assets and liabilities. The non-cash charges primarily related to stock-based compensation expense, depreciation and amortization expense and amortization of deferred FI implementation costs. Changes in our net operating assets and liabilities were significantly impacted by the growth of the business as reflected by increases in revenue, Consumer Incentives and FI Share. The net change in our accounts receivable, Consumer Incentive liability and FI Share liability, including the impact from recoveries of development payments to a certain FI partner through FI Share payment reductions, was a positive cash flow impact of $1.4 million. This reflects our efforts to negotiate longer payment terms with our FI partners. Other changes in our net operating assets and liabilities include a $2.2 million increase in prepaid expenses and other assets, offset by a $5.6 million increase in accounts payable and accrued expenses.

Operating activities used $19.0 million of cash in 2018, which reflected growth in revenue, offset by continued investment in our operations. Cash used in operating activities reflected our net loss of $53.0 million, an $8.4 million payment of paid-in-kind interest on our 2016 Line of Credit and 2016 Term Loan, as defined in Note 6—Debt, that were extinguished in May 2018 and a $3.4 million change in our net operating assets and liabilities, partially offset by $45.8 million of non-cash charges. The non-cash charges primarily related to stock-based compensation expense, depreciation and amortization expense, the change in fair value of our warrant liabilities, non-cash interest expense and a non-cash expense related to the vesting of warrants upon completion of our IPO in February 2018. The change in our net operating assets and liabilities was primarily due to a $9.4 million increase in accounts receivable resulting from increased sales from 2018 compared to 2017 and a $2.3 million increase in prepaid expenses and other assets, offset by a $3.7 million increase in FI Share liability and a $4.2 million increase in Consumer Incentive liability also resulting from increased sales from 2018 compared to 2017 and a $4.2 million increase in accounts payable and accrued expenses. Additionally, we paid $3.9 million in FI implementation costs, net of the amounts recovered through reductions in FI Share.

Operating activities used $22.1 million of cash in 2017, which reflected growth in revenue, offset by continued investment in our operations. Cash used in operating activities reflected our net loss of $19.6 million and a $14.2 million change in our net operating assets and liabilities, partially offset by non-cash charges of $11.8 million. The non-cash charges primarily related to depreciation and amortization expense, accretion of debt discount charged to interest expense, and stock-based compensation expense, offset by a gain related to change the change in fair value of convertible promissory notes. The change in our net operating assets and liabilities was primarily due to a $10.9 million increase in deferred FI Implementation costs, a $7.5 million increase in accounts receivable resulting from increased sales from 2017 compared to 2016 and a $1.4 million increase in accounts payable and accrued expenses, offset by increases in FI Share liability and Consumer Incentive liability also resulting from increased sales from 2017 compared to 2016.

Investing Activities

Our cash flows from investing activities are primarily driven by our investments in, and purchases of, property and equipment and costs to develop internal-use software. We expect that we will continue to use cash for investing activities as we continue to invest in and grow our business.

Investing activities used cash totaling $1.6 million, $7.3 million and $11.0 million, in 2017, 2018 and 2019, respectively. Our investing cash flows during these periods primarily consisted of purchases of technology hardware and the capitalization of costs to develop internal-use software.

Financing Activities

Our cash flows from financing activities have primarily been composed of borrowings and repayments under our debt facilities, proceeds from the issuance of common and preferred stock and payments for costs related to debt issuances and equity offerings.

Financing activities provided $44.2 million in cash in 2019. We raised net proceeds of $61.3 million from our public equity offering and received $29.7 million in proceeds from the exercise of options and warrants to purchase shares of common stock. We also reduced our outstanding borrowings under our 2018 Line of Credit by $26.7 million and 2018 Term Loan by $20.0 million.

Financing activities provided $65.2 million in cash in 2018. Our financing activities during this period primarily consisted of net proceeds from our IPO of $70.4 million (gross proceeds of $75.7 million less underwriting discounts and commissions of $5.3 million) and proceeds from the exercise of options to purchase shares of common stock of $1.9 million, partially offset by a net $4.4 million use of cash related to our refinancing in May 2018, payments of equity offering costs of $1.9 million and a $0.8 million repayment under our 2018 Line of Credit.

Financing activities provided $21.8 million in cash in 2017. Our financing activities during this period consisted primarily of the issuance of $11.9 million of redeemable convertible preferred stock, $5.0 million of borrowings under our 2016 Term Loan and $7.5 million of borrowings under our 2016 Line of Credit, as defined in Note 6—Debt, partially offset by equity offering costs of $2.7 million.

Contractual Obligations and Commitments

The following table summarizes our commitments to settle contractual obligations as of December 31, 2019 (in thousands):

	Less than 1 Year (2020)	1 to 3 Years (2021 and 2022)	3 to 5 Years (2023 and 2025)	More than 5 Years (thereafter)	Total
Capital leases[1]	$ 24	$ 13	$ —	$ —	$ 37
Operating leases[2]	3,040	5,567	4,265	—	12,872
Purchase obligations[3]	3,668	508	—	—	4,176
Total	$ 6,732	$ 6,088	$ 4,265	$ —	$ 17,085

(1) Capital leases represent principal and interest payments.
(2) Operating lease obligations represent future minimum lease payments under our non-cancelable operating leases with an initial term in excess of one year.
(3) Purchase obligations include all legally binding contracts such as hardware, software, licenses and legally binding service contracts. Purchase orders that are not binding agreements are excluded from the table above.

The commitment amounts in the table above are associated with contracts that are enforceable and legally binding and that specify all significant terms, including fixed or minimum services to be used, fixed, minimum or variable price provisions, and the approximate timing of the actions under the contracts. The table above does not include obligations under agreements that we can cancel without a significant penalty.

We have a minimum FI Share commitment with a certain FI partner totaling $10.0 million over a 12-month period following the completion of certain milestones, which were not met as of December 31, 2019. Any expected shortfall will be accrued during the 12-month period following the completion of the milestones. Also, unrecognized tax benefits totaled $(0.4) million as of December 31, 2019. The table above does not include these obligations.

Off-Balance Sheet Arrangements

We did not have any off-balance sheet arrangements as defined in Item 303(a)(4)(ii) of Regulation S-K.

ITEM 7A. QUALITATIVE AND QUANTITATIVE DISCLOSURES ABOUT MARKET RISK

Market risk represents the risk of loss that may impact our financial position due to adverse changes in financial market prices and rates. Our market risk exposure is primarily the result of fluctuations in interest rates and foreign exchange rates.

Interest Rate Risk

The interest rates under the 2018 Line of Credit are variable. Interest on advances under the 2018 Line of Credit bears an interest rate of the prime rate minus 0.50%, or 4.25%. As of December 31, 2019 the prime rate was 4.75% and a 10% increase in the current prime rate would, for example, result in a $0.2 million annual increase in interest expense if the maximum borrowable amount under the 2018 Line of Credit were outstanding for an entire year.

Foreign Currency Exchange Risk

Both revenue and operating expense of Cardlytics UK Limited are denominated in British pounds, and we bear foreign currency risks related to these amounts. For example, if the average value of the British pound had been 10% higher relative to the U.S. dollar during the 2017, 2018 and 2019, our operating expense would have increased by $0.9 million, $1.2 million and $1.4 million, respectively. Our foreign currency risks related to expenses denominated in Indian rupees is insignificant.

Inflation Risk

We do not believe that inflation has had a material effect on our business, financial condition or results of operations. If our costs were to become subject to significant inflationary pressures, we may not be able to fully offset such higher costs through price increases. Our inability or failure to do so could harm our business, financial condition and results of operations.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

CARDLYTICS, INC.

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the stockholders and the Board of Directors of Cardlytics, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Cardlytics, Inc. and subsidiaries (the "Company") as of December 31, 2018 and 2019, the related consolidated statements of operations, comprehensive loss, stockholders' (deficit) equity, and cash flows, for each of the three years in the period ended December 31, 2019, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2019, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019, in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits, we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ DELOITTE & TOUCHE LLP

Atlanta, Georgia

March 3, 2020

We have served as the Company's auditor since 2012.

CARDLYTICS, INC.
CONSOLIDATED BALANCE SHEETS
(Amounts in thousands, except par value amounts)

	December 31,	
	2018	**2019**
Assets		
Current assets:		
Cash and cash equivalents	$ 39,623	$ 104,458
Restricted cash	20,247	129
Accounts receivable, net	58,125	81,452
Other receivables	2,417	3,908
Prepaid expenses and other assets	3,956	5,783
Total current assets	124,368	195,730
Long-term assets:		
Property and equipment, net	10,230	14,290
Intangible assets, net	370	389
Capitalized software development costs, net	1,625	3,815
Deferred FI implementation costs, net	15,877	8,383
Other long-term assets, net	1,293	1,706
Total assets	$ 153,763	$ 224,313
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	$ 2,099	$ 1,229
Accrued liabilities:		
Accrued compensation	5,936	8,186
Accrued expenses	4,388	6,018
FI Share liability	27,656	41,956
Consumer Incentive liability	11,476	19,861
Deferred revenue	346	1,127
Current portion of long-term debt	21	24
Total current liabilities	51,922	78,401
Long-term liabilities:		
Deferred liabilities	3,173	2,632
Long-term debt, net of current portion	46,693	13
Total liabilities	101,788	81,046
Stockholders' equity:		
Common stock, $0.0001 par value—100,000 shares authorized and 22,466 and 26,547 shares issued and outstanding as of December 31, 2018 and December 31, 2019, respectively	7	8
Additional paid-in capital	371,463	480,578
Accumulated other comprehensive income	1,992	1,312
Accumulated deficit	(321,487)	(338,631)
Total stockholders' equity	51,975	143,267
Total liabilities and stockholders' equity	$ 153,763	$ 224,313

See notes to the consolidated financial statements

CARDLYTICS, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(Amounts in thousands, except per share amounts)

	Year Ended December 31,		
	2017	**2018**	**2019**
Revenue	$ 130,365	$ 150,684	$ 210,430
Costs and expenses:			
FI Share and other third-party costs	73,247	85,371	118,080
Delivery costs	7,012	10,632	12,893
Sales and marketing expense	31,927	41,878	43,828
Research and development expense	12,150	16,210	11,699
General and administration expense	20,100	34,228	36,720
Depreciation and amortization expense	3,028	3,282	4,535
Total costs and expenses	147,464	191,601	227,755
Operating loss	(17,099)	(40,917)	(17,325)
Non-operating (expense) income:			
Interest expense, net	(8,239)	(3,264)	(548)
Change in fair value of warrant liabilities, net	(581)	(6,760)	—
Change in fair value of convertible promissory notes	(1,244)	—	—
Change in fair value of convertible promissory notes—related parties	6,213	—	—
Other income (expense), net	1,309	(2,101)	729
Total non-operating (expense) income	(2,542)	(12,125)	181
Loss before income taxes	(19,641)	(53,042)	(17,144)
Income tax benefit	—	—	—
Net loss	(19,641)	(53,042)	(17,144)
Adjustments to the carrying value of redeemable convertible preferred stock	(5,743)	(157)	—
Net loss attributable to common stockholders	$ (25,384)	$ (53,199)	$ (17,144)
Net loss per share attributable to common stockholders, basic and diluted	$ (7.86)	$ (2.79)	$ (0.72)
Weighted-average common shares outstanding, basic and diluted	3,230	19,060	23,746

See notes to the consolidated financial statements

CARDLYTICS, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
(Amounts in thousands)

	Year Ended December 31,		
	2017	**2018**	**2019**
Net loss	$ (19,641)	$ (53,042)	$ (17,144)
Other comprehensive (loss) income:			
Foreign currency translation adjustments	(1,036)	926	(680)
Total comprehensive loss	$ (20,677)	$ (52,116)	$ (17,824)

See notes to the consolidated financial statements

CARDLYTICS, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' (DEFICIT) EQUITY
(Amounts in thousands)

	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Income	Accumulated Deficit	Total
	Shares	Amount				
Balance – December 31, 2016	2,590	$ —	$ 29,867	$ 2,102	$ (248,804)	$ (216,835)
Exercise of common stock options	48	—	230	—	—	230
Stock-based compensation	—	—	5,147	—	—	5,147
Issuance of common stock warrants	—	—	312	—	—	312
Deemed dividend related to beneficial conversion feature	—	—	(4,488)	—	—	(4,488)
Beneficial conversion feature of Series G stock	—	—	4,488	—	—	4,488
Conversion of convertible notes	801	—	24,392	—	—	24,392
Accretion of redeemable stock	—	—	(1,255)	—	—	(1,255)
Other comprehensive loss	—	—	—	(1,036)	—	(1,036)
Net loss	—	—	—	—	(19,641)	(19,641)
Balance – December 31, 2017	3,439	$ —	$ 58,693	$ 1,066	$ (268,445)	$ (208,686)
Exercise of common stock options	356	—	1,959	—	—	1,959
Exercise of common stock warrants	1,142	—	—	—	—	—
Stock-based compensation	—	—	26,813	—	—	26,813
Issuance of common stock	5,821	1	66,100	—	—	66,101
Issuance of common stock warrants	—	—	17,774	—	—	17,774
Issuance of ESPP	177	—	1,958	—	—	1,958
Issuance of restricted stock	888	—	—	—	—	—
Conversion of preferred stock to common stock	10,643	6	196,588	—	—	196,594
Conversion of preferred stock warrants to common stock warrants	—	—	1,735	—	—	1,735
Accretion of redeemable stock	—	—	(157)	—	—	(157)
Other comprehensive income	—	—	—	926	—	926
Net loss	—	—	—	—	(53,042)	(53,042)
Balance – December 31, 2018	22,466	$ 7	$ 371,463	$ 1,992	$ (321,487)	$ 51,975
Exercise of common stock options	716	—	12,052	—	—	12,052
Exercise of common stock warrants	821	—	17,659	—	—	17,659
Stock-based compensation	—	—	15,888	—	—	15,888
Issuance of restricted stock	486	—	—	—	—	—
Issuance of common stock	1,904	1	61,308	—	—	61,309
Issuance of ESPP	154	—	2,208	—	—	2,208
Other comprehensive loss	—	—	—	(680)	—	(680)
Net loss	—	—	—	—	(17,144)	(17,144)
Balance – December 31, 2019	26,547	$ 8	$ 480,578	$ 1,312	$ (338,631)	$ 143,267

See notes to the consolidated financial statements

CARDLYTICS, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Amounts in thousands)

	Year Ended December 31,		
	2017	**2018**	**2019**
Operating activities			
Net loss	$ (19,641)	$ (53,042)	$ (17,144)
Adjustments to reconcile net loss to net cash (used in) provided by operating activities:			
Depreciation and amortization	3,028	3,282	4,535
Amortization of financing costs charged to interest expense	560	282	95
Accretion of debt discount and non-cash interest expense	6,889	2,326	—
Stock-based compensation expense	5,147	26,790	15,851
Change in the fair value of warrant liabilities, net	581	6,760	—
Change in the fair value of convertible promissory notes	1,244	—	—
Change in the fair value of convertible promissory notes - related parties	(6,213)	—	—
Other non-cash (income) expense, net	(1,102)	4,771	631
Amortization of deferred FI implementation costs	1,626	1,618	2,869
Settlement of paid-in-kind interest	—	(8,353)	—
Change in operating assets and liabilities:			
Accounts receivable	(7,503)	(9,426)	(26,018)
Prepaid expenses and other assets	(666)	(2,275)	(2,224)
Deferred FI implementation costs	(10,900)	(9,250)	—
Recovery of deferred FI implementation costs	4,100	5,380	4,625
Accounts payable	(1,907)	911	(601)
Other accrued expenses	466	3,255	6,152
FI Share liability	804	3,742	14,301
Customer Incentive liability	1,385	4,234	8,385
Net cash (used in) provided by operating activities	(22,102)	(18,995)	11,457
Investing activities			
Acquisition of property and equipment	(1,215)	(5,920)	(8,277)
Acquisition of patents	(60)	(23)	(31)
Capitalized software development costs	(372)	(1,399)	(2,712)
Net cash used in investing activities	(1,647)	(7,342)	(11,020)
Financing activities			
Proceeds from issuance of debt	12,500	47,435	—
Principal payments of debt	(99)	(52,581)	(46,698)
Proceeds from issuance of common stock	230	72,334	91,216
Proceeds from issuance of Series G preferred stock	11,940	—	—
Equity issuance costs	(2,668)	(1,949)	(196)
Debt issuance costs	(142)	(48)	(143)
Net cash provided by financing activities	21,761	65,191	44,179
Effect of exchange rates on cash, cash equivalents and restricted cash	282	(246)	101
Net (decrease) increase in cash, cash equivalents and restricted cash	(1,706)	38,608	44,717
Cash, cash equivalents, and restricted cash — Beginning of period	22,968	21,262	59,870
Cash, cash equivalents, and restricted cash — End of period	$ 21,262	$ 59,870	$ 104,587

See notes to the consolidated financial statements

CARDLYTICS, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Amounts in thousands)

	Year Ended December 31,		
	2017	**2018**	**2019**
Reconciliation of cash, cash equivalents and restricted cash to the consolidated balance sheet:			
Cash and cash equivalents	$ 21,262	$ 39,623	$ 104,458
Restricted cash	—	20,247	129
Total cash, cash equivalents and restricted cash — End of period	$ 21,262	$ 59,870	$ 104,587
Supplemental schedule of non-cash investing and financing activities:			
Cash paid for interest	$ 873	$ 9,733	$ 1,266
Amounts accrued for property and equipment	$ 750	$ 640	$ 456
Amounts accrued for capitalized software development costs	$ 61	$ —	$ 10

See notes to the consolidated financial statements

CARDLYTICS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. NATURE OF OPERATIONS

Cardlytics, Inc. (“we,” “our,” “us,” the “Company,” or “Cardlytics”) is a Delaware corporation and was formed on June 26, 2008. We operate an advertising platform within financial institutions’ (“FIs”) digital channels, which include online, mobile, email, and various real-time notifications. Our partnerships with FIs provide us with access to their anonymized purchase data and digital banking customers. By applying advanced analytics to this aggregation of purchase data, we make it actionable, helping marketers identify, reach and influence likely buyers at scale, and measure the true sales impact of their marketing spend. We have strong relationships with leading marketers across a variety of industries, including national and regional restaurant and retail chains, large providers of cable satellite television and and wireless services, and increasingly, travel and hospitality, grocery, e-commerce and luxury brands. Using our purchase intelligence presents customers with offers to save money at a time when they are thinking of their finances.

On May 4, 2012, we formed Cardlytics UK Limited (“Cardlytics UK”), a wholly-owned subsidiary registered as a private limited company in England and Wales. Cardlytics UK was a party to a collaboration agreement whereby 50% of its income and losses are shared with Aimia EMEA Limited (“Aimia”). Cardlytics, Inc. obtained full control of Cardlytics UK in June 2016 upon the termination of the cooperation agreement in exchange for convertible promissory notes of the Company. Refer to Note 6—Debt for additional information. We also operate in India through Cardlytics Services India Private Limited, a wholly-owned and operated subsidiary registered as a private limited company in India.

Reverse Stock Split

On January 26, 2018, our board of directors approved an amended and restated certificate of incorporation to (1) effect a reverse split on outstanding shares of our common stock and redeemable convertible preferred stock on a one-for-four basis (the “Reverse Stock Split”), (2) modify the threshold for automatic conversion of our preferred stock into shares of our common stock in connection with an initial public offering to eliminate the requirement of gross proceeds to the Company of not less than $70.0 million and (3) authorize us to issue up to 100,000,000 shares of common stock, $0.0001 par value per share and 25,000,000 shares of redeemable convertible preferred stock, $0.0001 par value per share (collectively, the “Charter Amendment”). The authorized shares and par values of our common stock and redeemable convertible preferred stock were not adjusted as a result of the Reverse Stock Split. The Charter Amendment was approved by the Company’s stockholders on January 26, 2018 and became effective upon the filing of the Charter Amendment with the State of Delaware on January 26, 2018. All issued and outstanding common stock and preferred stock and related share and per share amounts contained in these financial statements have been retroactively adjusted to reflect the Reverse Stock Split for all periods presented.

Proceeds from Issuance of Common Stock

On February 13, 2018, we closed our initial public offering (“IPO”), in which we issued and sold 5,400,000 shares of common stock at a public offering price of $13.00 per share, resulting in gross proceeds of $70.2 million. On February 14, 2018, pursuant to the underwriters’ partial exercise of their over-allotment option to purchase up to an additional 810,000 shares from us, we issued and sold an additional 421,355 shares of our common stock, resulting in additional gross proceeds to us of $5.5 million. In total, we issued 5,821,355 shares of common stock and raised $75.7 million in gross proceeds, or $66.1 million in net proceeds after deducting underwriting discounts and commissions of $5.3 million and offering costs of $4.3 million. Upon the closing of the IPO, all of the outstanding shares of redeemable convertible preferred stock automatically converted into shares of common stock and all warrants to purchase shares of redeemable convertible preferred stock were automatically converted into warrants to purchase shares of common stock. Subsequent to the closing of the IPO, there were no shares of preferred stock or warrants to purchase shares of redeemable convertible preferred stock outstanding. The consolidated financial statements as of December 31, 2017, including share and per share amounts, do not give effect to the IPO or conversion of the redeemable convertible preferred stock, as the IPO and such conversions were completed subsequent to December 31, 2017.

Upon the completion of our IPO, our amended and restated certificate of incorporation authorized us to issue up to 100,000,000 shares of common stock, $0.0001 par value per share, and 10,000,000 shares of preferred stock, $0.0001 par value per share, all of which shares of preferred stock are undesignated. Our board of directors may establish the rights and preferences of the preferred stock from time to time.

On September 13, 2019, we closed a public equity offering in which we sold 1,904,154 shares of common stock, which included 404,154 shares sold pursuant to the exercise by the underwriters of an option to purchase additional shares, at a public offering price of $34.00 per share. We received total net proceeds of $61.3 million after deducting underwriting discounts and commissions of $3.2 million and offering costs of $0.2 million.

Selling stockholders, including certain of our executive officers and entities affiliated with certain of our directors, sold 1,194,365 shares of common stock in the offering at a public offering price of $34.00. We did not receive any proceeds from the sale of common stock by the selling stockholders.

During 2017, 2018 and 2019, we received $0.2 million, $2.0 million and $29.7 million in proceeds from the exercise of options and warrants to purchase shares of common stock.

2. SIGNIFICANT ACCOUNTING POLICIES

Principles of Consolidation

The consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries. All intercompany transactions and balances have been eliminated in consolidation.

Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles in the United States (“GAAP”) requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements. Actual results could differ from these estimates. Significant items subject to such estimates and assumptions include revenue recognition, internal-use software development costs, income taxes, stock-based compensation, income tax valuation allowance, contingencies and changes in fair value of our convertible promissory notes, preferred stock warrants and common stock warrants. We base our estimates on historical experience and also on assumptions that we believe are reasonable. Changes in facts or circumstances may cause us to change our assumptions and estimates in future periods and it is possible that actual results could differ from our current or revised future estimates.

Foreign Currency

The functional currency of our foreign wholly-owned subsidiaries is the local currency. We translate the financial statements of these subsidiaries into U.S. dollars each reporting period for purposes of consolidation. Assets and liabilities are translated at the period-end currency exchange rates, certain equity accounts are translated at historical exchange rates and income and expense amounts are translated at average currency exchange rates in effect for the period. The effect of these translation adjustments is reported in a separate component of stockholders’ deficit titled accumulated other comprehensive income.

We are also subject to gains and losses from foreign currency denominated transactions and the remeasurement of foreign currency denominated balance sheet accounts, both of which are included in other income (expense), net in the accompanying consolidated statements of operations. We recorded foreign currency (gains) losses totaling $(1.3) million and $1.2 million and $(0.8) million in 2017, 2018 and 2019, respectively.

FI Share and Other Third-Party Costs

With respect to Cardlytics Direct, we generally pay our FI partners a negotiated and fixed percentage of our billings to marketers less any Consumer Incentives that we pay to the FIs’ customers and certain third-party data costs ("FI Share"). FI Share and other third-party costs consist primarily of the FI Share that we pay our FI partners, media and data costs, and the amortization of implementation costs incurred pursuant to our agreements with certain FI partners, any incremental costs due to FIs as part of FI Share commitments, as well as a non-cash expense related to the vesting of warrants issued to an FI partner that accelerated upon the consummation of our IPO. To the extent that we use a specific FI customer’s anonymized purchase data in the delivery of our solutions, we pay the applicable FI partner an FI Share calculated based on the relative contribution of the data provided by the FI partner to the overall delivery of the services.

Delivery Costs

Delivery costs consist primarily of personnel-related costs of our campaign, data operations and production support teams, including salaries, benefits, bonuses and payroll taxes, as well as stock-based compensation expense. Delivery costs also include hosting facility costs, internally developed and purchased or licensed software costs, outsourcing costs and professional services costs.

Accounts Receivable

Accounts receivable are carried at the original invoiced amount less an allowance for doubtful accounts, determined based on the probability of future collection. When we become aware of circumstances that may decrease the likelihood of collection, we record a specific allowance against amounts due, which reduces the receivable to the amount that we believe will be collected. For all other accounts receivable, we determine the adequacy of the allowance based on historical loss patterns, the number of days that billings are past due and an evaluation of the potential risk of loss associated with specific accounts.

The following table presents changes in the allowance for doubtful accounts (in thousands):

	Year Ended December 31,		
	2017	**2018**	**2019**
Beginning balance	$ 653	$ 105	$ 169
Bad debt expense	73	130	1,201
Write-offs, net of recoveries	(621)	(66)	(1,115)
Ending balance	$ 105	$ 169	$ 255

Unbilled receivables were $0.1 million, $0.4 million and $0.6 million as of December 31, 2017, 2018 and 2019, respectively. An unbilled receivable represents revenue earned and recognized from customer activity that was not billed prior to the end of the reporting period. Unbilled receivables are included in accounts receivable, net on our consolidated balance sheets.

Property and Equipment

Property and equipment are stated at cost. Expenditures for maintenance and repairs are expensed as incurred, while betterments that materially extend the life of an asset are capitalized. The cost of assets sold, retired or otherwise disposed of, and the related accumulated depreciation, are eliminated from the accounts and any resulting gain or loss is recognized.

Depreciation of property and equipment is determined using the straight-line method over the estimated useful lives of the applicable assets, which are as follows:

Computer equipment:	2–3 years
Furniture and fixtures:	5 years
Leasehold improvements:	Lesser of estimated useful life or life of the lease

Intangible Assets

Intangible assets are recorded at cost and consist of costs incurred for software patent applications. As of December 31, 2019, we had four issued patents and are pursuing ten additional patents relating to our software. We received approval for three patents in 2013 and one patent in 2018 and began amortizing the costs of obtaining these patents over the estimated remaining lives of the patents. If a patent application is rejected or if we abandon efforts to obtain a new patent, all deferred patent costs are expensed immediately. Deferred patent costs related to patents for which we have not yet obtained approval totaled $0.2 million and $0.3 million as of December 31, 2018 and 2019, respectively. Based on deferred patent costs as of December 31, 2019, the related amortization expense will be less than $0.1 million in each of the next five years. Intangible assets are as follows (in thousands):

	December 31,	
	2018	**2019**
Deferred patent costs, gross	$ 417	$ 448
Less accumulated amortization	(47)	(59)
Deferred patent costs, net	$ 370	$ 389

Internal-Use Software Development Costs

Capitalized software development costs consist of costs incurred in the development of internal-use software, primarily associated with the development and enhancement of our offer management system and offer placement system. We capitalize the costs of software developed or obtained for internal use in accordance with ASC Topic 350-40, *Internal Use Software*. We begin to capitalize our costs upon completion of the preliminary project stage. We consider the preliminary project stage to be complete and the application development stage to have begun when preliminary development efforts are successfully completed, management has authorized and committed project funding and it is probable that the project will be completed and the software will be used as intended. These costs are amortized on a straight-line basis over the estimated useful life of the related asset, generally estimated to be three years. Costs incurred in the preliminary project stage and post-implementation operation stages are expensed as incurred and recorded in research and development expense on our consolidated statements of operations.

During 2017, 2018 and 2019, we capitalized development costs for enhancements to our offer management system as well as the implementation of a new billing system totaling $0.4 million, $1.6 million and $2.6 million, respectively.

Capitalized software development costs are as follows (in thousands):

	December 31,	
	2018	**2019**
Capitalized software development costs, gross	$ 2,826	$ 5,537
Less accumulated amortization	(1,201)	(1,722)
Capitalized software development costs, net	$ 1,625	$ 3,815

Debt Issuance Costs

Costs incurred to obtain loans, other than lines of credit, are recorded as a reduction of the carrying amount of the related liability and amortized over the applicable loans' life using the effective interest method. Costs incurred to obtain lines of credit are capitalized and included in other long-term assets on our consolidated balance sheets and amortized ratably over the term of the arrangement. Costs incurred to obtain loans for which we have elected the fair value option are expensed upon the issuance of the loan and recorded within general and administrative expense on our consolidated statements of operations.

As described in Note 6—Debt, we entered into a 2018 Loan Facility in 2018 and deferred $0.1 million of debt issuance costs associated with obtaining the 2018 Loan Facility and deferred $0.1 million of unamortized debt issuance costs attributed to our 2016 Line of Credit and 2016 Term Loan. We recognized a $0.9 million loss on extinguishment of debt related to the unamortized discount and unamortized debt issuance costs associated with our 2016 Term Loan and 2016 Line of Credit. This expense is included within other income (expense), net on our consolidated statements of operations and is presented in other non-cash expenses on our consolidated statement of statement of cash flows.

Amortization of debt issuance costs included in interest expense, net totaled $0.6 million, $0.3 million and $0.1 million in 2017, 2018 and 2019, respectively.

Deferred debt issuance costs related to our lines of credit included in other long-term assets are as follows (in thousands):

	December 31,	
	2018	**2019**
Debt issuance costs, gross	$ 334	$ 388
Less accumulated amortization	(234)	(271)
Debt issuance costs, net	$ 100	$ 117

Deferred debt issuance costs related to our term loans included in debt are as follows (in thousands):

	December 31,	
	2018	**2019**
Debt issuance costs, gross	$ 30	$ —
Less accumulated amortization	(10)	—
Debt issuance costs, net	$ 20	$ —

Future amortization of debt issuance costs is as follows (in thousands):

Years Ending December 31,	Amortization
2020	$ 87
2021	30
Total	$ 117

Deferred Offering Costs

Deferred offering costs consist of incremental costs directly attributable to equity offerings. Deferred offering costs are included in other long-term assets on our consolidated balance sheets. Upon completion of an offering, these amounts are offset against the proceeds of the offering.

Deferred offering costs is as follows (in thousands):

	Year Ended December 31,		
	2017	2018	2019
Beginning balance	$ —	$ 3,144	$ —
Deferred costs	3,144	1,135	196
Recognized against offering proceeds	—	(4,279)	(196)
Ending balance	$ 3,144	$ —	$ —

Advertising

We expense advertising costs as incurred. These costs are included in sales and marketing expense on our consolidated statements of operations. Advertising costs include direct marketing costs such as print advertisements, market research, direct mail, public relations and trade show expenses and totaled $0.7 million, $0.9 million and $1.4 million in 2017, 2018 and 2019, respectively.

Stock-Based Compensation

We measure and recognize compensation expense based on the estimated fair value of the award on the grant date. The fair value is recognized as expense over the requisite service period, which is generally the vesting period of the respective award, on a straight-line basis when the only condition to vesting is continued service. We recognize the fair value of awards that contain performance conditions based upon the probability of the performance conditions being met. Expense for awards with performance conditions are estimated and adjusted on a quarterly basis based upon our assessment of the probability that the performance condition will be met. We recognize the fair value of awards that contain market conditions over the derived service period. Forfeitures are accounted for when they occur. Refer to Note 7—Stock-based Compensation for additional information regarding our specific award plans and estimates and assumptions used to determine fair value.

Redeemable Convertible Preferred Stock Warrant Liability

Warrants to purchase shares of our redeemable convertible preferred stock are accounted for as derivative liabilities in accordance with ASC Topic 815, *Derivatives and Hedging* due to the terms of the warrants and related agreements. We have determined that these warrants do not meet the scope exception of a contract indexed to our stock because of fair value protections contained in agreements governing our redeemable convertible preferred stock as described in Note 9—Redeemable Convertible Preferred Stock. We record preferred stock warrant liabilities on our consolidated balance sheets at their fair value. We record the changes in fair value of such instruments as non-cash gains or losses on our statements of operations. Upon the consummation of our IPO, all of the outstanding warrants to purchase shares of redeemable convertible preferred stock were automatically converted into warrants to purchase shares of common stock. Refer to Note 11—Fair Value Measurements for additional information.

Common Stock Warrant Liability

In connection with the Series G Stock financing, we issued warrants to purchase shares of our common stock that are accounted for as liabilities in accordance with ASC Topic 480, *Distinguishing Liabilities From Equity* due to the terms of the warrants and related agreements. We record these common stock warrant liabilities on our consolidated balance sheets at their fair value. We record the changes in fair value of such instruments as non-cash gains or losses in our statements of operations. Refer to Note 11—Fair Value Measurements for additional information.

Fair Value of Financial Instruments

When required by GAAP, assets and liabilities are reported at fair value on our consolidated financial statements. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs. Valuation inputs are arranged in a hierarchy that consists of the following levels:

- Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that the reporting entity has the ability to access at the measurement date.
- Level 2 inputs are inputs other than Level 1 inputs such as quoted prices for similar assets or liabilities; quoted prices in markets with insufficient volume or infrequent transactions (less active markets); or model-derived valuations in which all significant inputs are observable or can be derived principally from or corroborated by observable market data for substantially the full term of the assets or liabilities.
- Level 3 inputs are unobservable inputs for the asset or liability.

Our nonfinancial assets that we recognize or disclose at fair value on our consolidated financial statements on a nonrecurring basis include property and equipment, intangible assets, capitalized software development costs and deferred FI implementation costs. The fair values for these assets are evaluated when events or changes in circumstances indicate the carrying value may not be recoverable.

Convertible Promissory Notes

The redemption features included in the terms of the convertible promissory notes were determined to be derivative liabilities as a result of a significant discount within the redemption features for the note holders. Embedded derivatives that are not clearly and closely related to the host contract are required to be bifurcated and recorded at fair value unless the fair value option is elected on the host contract. Under the fair value option, bifurcation of the embedded derivative is not necessary as all related gains or losses on the host contract and derivative will be reflected on the consolidated statements of operations. We elected the fair value option for the convertible promissory notes upon their issuance. The convertible promissory notes are measured at fair value using unobservable inputs that required a high level of judgment, and are therefore classified as Level 3. In May 2017, we issued and sold shares of Series G redeemable convertible preferred stock, which resulted in the conversion of the convertible promissory notes into either shares of our common stock or shares of our Series G’ Stock. Refer to Note 11—Fair Value Measurements for additional information regarding the valuation of the convertible promissory notes.

Income Taxes

Income taxes are accounted for using the asset and liability method. Under this method, deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective income tax bases, and operating loss and tax credit carryforwards. Valuation allowances are provided when we determine that it is more likely than not that all of, or a portion of, deferred tax assets will not be utilized in the future.

Significant judgment is required in determining any valuation allowance recorded against deferred tax assets. In assessing the need for a valuation allowance, we consider all available evidence, including past operating results, estimates of future taxable income and the feasibility of tax planning strategies. In the event that we change our determination as to the amount of deferred tax assets that can be realized, we will adjust our valuation allowance with a corresponding impact to the provision for income taxes in the period in which such determination is made.

Estimates of future taxable income are based on assumptions that are consistent with our plans. Assumptions represent management’s best estimates and involve inherent uncertainties and the application of management’s judgment. If actual amounts differ from our estimates, the amount of our tax expense and liabilities could be materially impacted.

We have recorded a full valuation allowance related to our net deferred tax assets due to the uncertainty of the ultimate realization of the future benefits of those assets.

We recognize the tax effects of an uncertain tax position only if it is more likely than not to be sustained based solely on its technical merits as of the reporting date, and then, only in an amount more likely than not to be sustained upon review by the tax authorities. Where applicable, we classify associated interest and penalties as income tax expense. The total amounts of interest and penalties were not material. We consider many factors when evaluating and estimating our tax positions and tax benefits, which may require periodic adjustments and which may not accurately anticipate actual outcomes.

On December 22, 2017, the Tax Cuts and Jobs Act of 2017 ("Tax Act") was signed into law making significant changes to the Internal Revenue Code of 1986, as amended ("IRC"). Changes include, but are not limited to, a corporate tax rate decrease to 21% effective for tax years beginning after December 31, 2017. This change in tax rate resulted in a reduction in our net U.S. deferred tax assets, which was fully offset by a reduction in our valuation allowance. The other provisions of the Tax Act, including the one-time transition tax on the mandatory deemed repatriation of cumulative foreign earnings, did not have a material impact on our financial statements.

3. ACCOUNTING STANDARDS

Recently Adopted Accounting Pronouncements

On January 1, 2019, we early adopted Accounting Standards Update ("ASU") 2014-09, *Revenue from Contracts with Customers (Topic 606)*, using the modified retrospective method, as permitted under ASU 2014-09. The adoption of ASU 2014-09 did not result in a material change in the timing or amount of revenue recognized, nor did it result in the capitalization of incremental contract costs. Accordingly, there was no cumulative effect adjustment recorded in the consolidated financial statements upon adoption.

On January 1, 2019, we adopted ASU 2016-01, *Financial Instruments-Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities,* which is intended to enhance the reporting model for financial instruments to provide users of financial statements with more decision-useful information. The adoption of this guidance had no impact on our consolidated financial statements.

Recently Issued Accounting Pronouncements

In April 2015, the FASB issued ASU 2015-05, *Intangibles—Goodwill and Other—Internal-Use Software (Subtopic 350-40): Customer's Accounting for Fees Paid in a Cloud Computing Arrangement*, to help entities evaluate the accounting for fees paid by a customer in a cloud computing arrangement (hosting arrangement) by providing guidance for determining when the arrangement includes a software license. If a cloud computing arrangement includes a license to internal-use software, then the software license is accounted for by the customer in accordance with Subtopic 350-40. This generally means that an intangible asset is recognized for the software license and, to the extent that the payments attributable to the software license are made over time, a liability also is recognized. If a cloud computing arrangement does not include a software license, the entity should account for the arrangement as a service contract. This generally means that the fees associated with the hosting element (service) of the arrangement are expensed as incurred. For public entities, this ASU is effective for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years. For non-public entities, this ASU is effective for fiscal years beginning after December 15, 2020, and interim periods within fiscal years beginning after December 15, 2021. Early adoption is permitted, including adoption in any interim period, for all entities. We have made the election to use the extended transition period for complying with new or revised accounting standards under Section 102(b)(1) of the JOBS Act, and therefore we will be required to adopt this ASU for annual reporting periods beginning after December 15, 2020. We early adopted this ASU on January 1, 2020 on a prospective basis. We do not expect the adoption to have a material effect on our consolidated financial statements.

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842)*, which supersedes ASC Topic 840, *Leases*. The ASU does not significantly change the lessees' recognition, measurement and presentation of expenses and cash flows from the previous accounting standard. The ASU requires lessees to recognize a lease liability for payments and a right of use asset representing the right to use the leased asset during the term on operating lease arrangements. Lessees are permitted to make an accounting policy election to not recognize the asset and liability for leases with a term of twelve months or less. Lessors' accounting under the ASU is largely unchanged from the previous accounting standard. In addition, the ASU expands the disclosure requirements of lease arrangements. In July 2018, the FASB issued ASU 2018-11, *Leases (Topic 842) - Targeted Improvements*, which provides the option of applying the requirements of the new lease standard in the period of adoption with no restatement to comparative periods. For public entities, *Leases (Topic 842)* is effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. In November 2019, the FASB issued ASU 2019-10, *Leases (Topic 842)*, making the effective date of *Leases (Topic 842)* for non-public entities effective for annual periods beginning after December 15, 2020, and interim periods within fiscal years beginning after December 15, 2021. We have made the election to use the extended transition period for complying with new or revised accounting standards under Section 102(b)(1) of the JOBS Act, and therefore we will be required to adopt this ASU for annual reporting periods beginning after January 1, 2021. Early adoption is permitted. Although we are currently evaluating the impact of this guidance on our consolidated financial statements, we expect that most of our operating lease commitments will be recognized as operating lease liabilities and right-of-use assets upon adoption of the new guidance.

4. REVENUE

We have generated revenue through the sale of two categories of solutions that leverage our intelligence platform: (1) our proprietary native banking channel, Cardlytics Direct, and (2) our Other Platform Solutions. We have generated substantially all of our revenue from sales of Cardlytics Direct since inception.

Our Other Platform Solutions enabled marketers and marketing service providers to leverage the power of purchase intelligence outside the bank channel. We have shifted the majority of our efforts and resources to support the growth of Cardlytics Direct. As a result, we have not and do not expect to generate substantial, if any, revenue from Other Platform Solutions for the foreseeable future.

Cardlytics Direct

Cardlytics Direct is our proprietary native bank advertising channel that enables marketers to reach consumers through the FIs' trusted and frequently visited digital banking channels. Working with the marketer, we design a campaign that targets customers based on their purchase history. The consumer is offered an incentive to make a purchase from the marketer within a specified period. We use a portion of the fees that we collect from marketers to provide these consumer incentives to our FIs’ customers after they make qualifying purchases ("Consumer Incentives").

Cardlytics Direct is priced predominantly in two ways: (1) Cost per Served Sale (“CPS”), and (2) Cost per Redemption (“CPR”).

- **CPS.** Our primary pricing model is CPS, which we created to meet the media buying preferences of marketers. We generate revenue by charging a percentage, which we refer to as the CPS Rate, of all purchases from the marketer by consumers (1) who are served marketing and (2) subsequently make a purchase from the marketer during the campaign period, regardless of whether consumers select the marketing and thereby becomes eligible to earn the applicable Consumer Incentive. We set CPS Rates for marketers based on our expectation of the marketer’s return on spend for the relevant campaign. Additionally, we set the amount of the Consumer Incentives payable for each campaign based on our estimation of our ability to drive incremental sales for the marketer. We seek to optimize the level of Consumer Incentives to retain a greater portion of billings. However, if the amount of Consumer Incentives exceeds the amount of billings that we are paid by the applicable marketer we are still responsible for paying the total Consumer Incentive. This has occurred infrequently and has been immaterial in amount for each of the periods presented. In some instances, we may also charge the marketer the Consumer Incentive, in which case the marketer determines the level of Consumer Incentive for the campaign.
- **CPR.** Under our CPR pricing model, marketers specify and fund the Consumer Incentive and pay us a separate negotiated, fixed marketing fee, which we refer to as the CPR Fee, for each purchase that we generate. We generate revenue if the consumer (1) is served marketing, (2) selects the marketing and thereby becomes eligible to earn the applicable Consumer Incentive and (3) makes a qualifying purchase from the marketer during the campaign period. We set the CPR Fee for marketers based on our estimation of the marketers’ return on spend for the relevant campaign. The CPR Fee is either a percentage of qualifying purchases or a flat amount. In some instances, we may solely charge the marketer the CPR Fee, in which case we determine the level of Consumer Incentive for the campaign.

The following table summarizes revenue by pricing model (in thousands):

	Year Ended December 31,		
	2017	2018	2019
Cost per Served Sale	$ 81,830	$ 101,087	$ 143,754
Cost per Redemption	33,822	43,389	63,295
Other	14,713	6,208	3,381
Revenue	$ 130,365	$ 150,684	$ 210,430

Revenue Recognition

We determine revenue recognition through the following steps:

- identification of a contract with a customer,
- identification of the performance obligation(s) in the contract,
- determination of the transaction price,
- allocation of the transaction price to the performance obligation(s) in the contract, and
- recognition of revenue when or as the performance obligation(s) are satisfied.

We sell our solutions by entering into agreements directly with marketers or their marketing agencies, generally through the execution of insertion orders. The agreements state the terms of the arrangement, the negotiated fee, payment terms and the fixed period of time of the campaign. We consider a contract to exist when a campaign, which typically lasts 45 days, is published to an FI partner under the terms of an insertion order.

With respect to our Cardlytics Direct service, our performance obligation is to offer incentives to FIs' customers to make purchases from the marketer within a specified period. This performance obligation is a series that represents a stand ready obligation to provide a targeted campaign for the marketer to FIs' customers. Cardlytics Direct fees represent variable consideration that is resolved when FIs' customers make qualifying purchases during the marketing campaign term.

Subsequent to a qualifying purchase, the associated fees are generally not subject to refund or adjustment unless the fees from the marketing campaign exceed a contractual maximum (marketer budget). We have not constrained our revenue because adjustments have historically been immaterial and given the short duration of our marketing campaigns, any adjustments are recognized during the period of the marketing campaign. We recognize revenue for Cardlytics Direct fees over time using the right to invoice practical expedient because the amount billed is equal to the value delivered to marketers through qualified purchases by FIs' customers during that period.

Consumer Incentives

We report our revenue on our consolidated statements of operations net of Consumer Incentives. We do not provide the goods or services that are purchased by our FIs' customers from the marketers to which the Consumer Incentives relate. Accordingly, the marketer is deemed to be the principal in the relationship with the customer and, therefore, the Consumer Incentive is deemed to be a reduction in the purchase price paid by the customer for the marketer's goods or services. While we are responsible for remitting Consumer Incentives to our FI partners for further payment to their customers, we function solely as an agent of marketers in these arrangements.

We invoice marketers monthly based on the qualifying purchases of FIs' customers as reported by our FI partners during the month. Invoice payment terms, negotiated on a marketer-by-marketer basis, are typically between 30 to 60 days. However, for certain marketing agencies with sequential liability terms, payments are not due to us until such marketing agency has received payment from its marketer client. Accounts receivable is recorded at the amount of gross billings to marketers, net of allowances, for the fees and Consumer Incentives that we are responsible to collect. Our accrued liabilities also include the amount of Consumer Incentives due to FI partners. As a result, accounts receivable and accrued liabilities may appear large in relation to revenue, which is reported on a net basis. During 2017, 2018 and 2019, Consumer Incentives totaled $61.2 million, $68.3 million and $105.6 million, respectively.

FI Share and Other Third-Party Costs

We report our revenue on our consolidated statements of operations gross of FI Share. FI Share costs are included in FI Share and other third-party costs in our consolidated statements of operations, rather than as a reduction of revenue, because we and not our FI partners act as the principal in our arrangements with marketers. We are responsible for the fulfillment and acceptability of the services purchased by marketers. We also have latitude in establishing the price of our services, have discretion in supplier selection and earn variable amounts. FI partners only supply consumer purchase data and digital marketing space and generally have no involvement in the marketing campaigns or contractual relationship with marketers.

Contract Costs

Given the short-term nature of our marketing campaigns, all contract costs are expensed as incurred since the expected period of benefit is less than one year. Costs to fulfill a contract include immaterial costs to set up a campaign that we expense as incurred due to the short-term nature of our marketing campaigns

5. PROPERTY AND EQUIPMENT

Significant components of property and equipment are as follows (in thousands):

	December 31,	
	2018	2019
Computer equipment	$ 16,284	$ 21,269
Leasehold improvements	5,573	6,960
Furniture and fixtures	913	1,557
Construction in progress	65	1,125
Property and equipment, gross	22,835	30,911
Less accumulated depreciation	(12,605)	(16,621)
Property and equipment, net	$ 10,230	$ 14,290

Assets acquired under capital leases, included within computer equipment, are as follows (in thousands):

	December 31,	
	2018	2019
Capital lease assets, gross	$ 1,096	$ 1,096
Less accumulated depreciation	(1,047)	(1,067)
Capital lease assets, net	$ 49	$ 29

Depreciation expense was $3.0 million, $3.0 million and $4.0 million in 2017, 2018 and 2019, respectively.

6. DEBT

Our debt consists of the following (in thousands):

	December 31,	
	2018	2019
Lines of credit	$ 26,677	$ —
Term loans	19,980	—
Capital leases	57	37
Total debt	46,714	37
Less current portion of long-term debt	(21)	(24)
Long-term debt, net of current portion	$ 46,693	$ 13

We had no accrued interest in debt as of December 31, 2018 and 2019, respectively. Paid-in-kind interest related to the convertible promissory notes is recognized in interest expense, net on our consolidated statements of operations and totaled $1.7 million during 2017.

2018 Loan Facility

On May 21, 2018, we entered into a Loan and Security Agreement with Pacific Western Bank (the “Lender”) consisting of a $30.0 million asset–based revolving line of credit ("2018 Line of Credit") and a $20.0 million term loan ("2018 Term Loan") (collectively, the “2018 Loan Facility”). We used the entire $20.0 million in proceeds from the 2018 Term Loan and an advance of $27.4 million under the 2018 Line of Credit to repay all outstanding obligations under our prior line of credit and term loan.

On May 14, 2019, we amended our 2018 Loan Facility to increase the capacity of our Line of Credit, from $30.0 million to $40.0 million, and decrease the capacity of our 2018 Term Loan from $20.0 million to $10.0 million. This amendment also extended the maturity date of the 2018 Loan Facility from May 21, 2020 to May 14, 2021. We repaid $10.0 million of the principal balance of the 2018 Term Loan upon the execution of the amendment in May 2019 and repaid the remaining $10.0 million principal balance in September 2019. As of December 31, 2019, we had $40.0 million of unused borrowings available under our 2018 Line of Credit.

The 2018 Loan Facility contains moving trailing 12-month billing covenants, which range from $210.0 million to $255.0 million, during the term of the facility. The moving 12-month billings covenant was $240.0 million for December 2019. The 2018 Loan Facility also requires us to maintain a total cash balance plus liquidity under the 2018 Line of Credit of not less than $5.0 million.

Under the 2018 Loan Facility relating to the 2018 Line of Credit, we are able to borrow up to the lesser of $40.0 million or 85% of the amount of our eligible accounts receivable. Interest on advances under the 2018 Line of Credit bears an interest rate equal to the prime rate minus 0.50%, or 4.25% as of December 31, 2019. In addition, we are required to pay an unused line fee of 0.15% per annum on the average daily unused amount of the $40.0 million revolving commitment. Interest accrued on the 2018 Term Loan at an annual rate of interest equal to the prime rate minus 2.75%, or 2.00% at the date of repayment in September 2019.

The 2018 Loan Facility includes customary representations, warranties and covenants (affirmative and negative), including restrictive covenants that prohibits mergers, acquisitions and dispositions of assets, incurrence of indebtedness and encumbrances on our assets and the payment or declaration of dividends; in each case subject to specified exceptions.

The 2018 Loan Facility also includes standard events of default, including in the event of a material adverse change. Upon the occurrence of an event of default, the lender may declare all outstanding obligations immediately due and payable and take such other actions as are set forth in the 2018 Loan Facility and increase the interest rate otherwise applicable to advances under the 2018 Line of Credit by an additional 3.00%. All of our obligations under the 2018 Loan Facility are secured by a first priority lien on substantially all of our assets. The 2018 Loan Facility does not include any prepayment penalties.

We believe we were in compliance with all financial covenants as of December 31, 2019.

2016 Line of Credit

In September 2016, we entered into a $50.0 million loan and security agreement ("2016 Line of Credit") maturing on March 14, 2019. The 2016 Line of Credit facility was repaid and terminated in May 2018 in connection with obtaining our 2018 Loan Facility. We recognized a $0.1 million loss on extinguishment of debt related to the unamortized debt issuance costs. This expense is included within other income (expense), net in our consolidated statements of operations and is presented in other non-cash expenses on our consolidated statement of statement of cash flows.

2016 Term Loan

In July 2016, we entered into a $24.0 million credit agreement ("2016 Term Loan") maturing on July 21, 2019. The 2016 Term Loan was repaid and terminated in May 2018 in connection with obtaining our 2018 Loan Facility. We recognized a $0.8 million loss on extinguishment of debt related to the unamortized discount and unamortized debt issuance costs. This expense is included within other income (expense), net in our consolidated statements of operations and is presented in other non-cash expenses on our consolidated statement of statement of cash flows.

Convertible Promissory Notes

During 2016, we issued unsecured convertible promissory notes to existing stockholders and Aimia with an aggregate principal amount of $50.7 million. The redemption features included in the terms of the convertible promissory notes were determined to be derivative liabilities as a result of a significant discount within the redemption features for the note holders. Embedded derivatives that are not clearly and closely related to the host contract are required to be bifurcated and recorded at fair value unless the fair value option is elected on the host contract. Under the fair value option, bifurcation of the embedded derivative is not necessary as all related gains (losses) on the host contract and derivative will be reflected in the consolidated statements of operations. We elected the fair value option for the convertible promissory notes and changes in fair value of the convertible promissory notes are included in change in fair value of convertible promissory notes on our consolidated statements of operations. Refer to Note 11—Fair Value Measurements for additional information regarding the valuation of the convertible promissory notes.

Existing Stockholder Notes

During 2016, we issued unsecured convertible promissory notes to certain of our existing stockholders with an aggregate principal amount of $27.0 million ("Existing Stockholder Notes"). In May 2017, we issued and sold shares of Series G redeemable convertible preferred stock, which resulted in the conversion of the Existing Stockholder Notes into shares of our Series G’ Stock. Refer to Note 9—Redeemable Convertible Preferred Stock for additional information regarding the Series G Stock financing and the transactions that resulted in the conversion of the Existing Stockholder Notes into shares of our Series G’ Stock.

Aimia Notes

During 2016, we issued to Aimia unsecured convertible promissory notes (“Aimia EMEA Notes”), in an aggregate principal amount of $18.0 million. In consideration for our outstanding obligations to Aimia Inc. at the time we terminated our U.K. cooperation agreement, we issued to Aimia an unsecured convertible promissory note (“Outstanding Obligation Note”) in an aggregate principal amount of approximately $5.7 million.

Both the Aimia EMEA Notes and the Outstanding Obligation Note (collectively the “Aimia Notes”) were convertible into shares of our capital stock, depending on certain triggering events. In the event we completed an equity financing in which we received proceeds in excess of $10.0 million, the Aimia EMEA Notes were to automatically convert into shares of our common stock and the Outstanding Obligation Note was to automatically convert into shares of the same series of our capital stock as the investors in the financing.

In connection with the Series G Stock financing, the Aimia EMEA Notes converted into 801,329 shares of common stock. Refer to Note 9—Redeemable Convertible Preferred Stock for additional information of the Series G Stock financing and the transactions that resulted in the conversion of the Aimia EMEA Notes into shares of our common stock and the conversion of the Outstanding Obligation Note into shares of our Series G’ Stock.

Future Payments

Aggregate future payments of principal and interest due upon maturity are as follows (in thousands):

Years Ending December 31,	Capital leases
2020	$ 24
2021	13
Total debt	$ 37

7. STOCK-BASED COMPENSATION

In May 2017, our board of directors and stockholders approved an increase in the total number of shares of common stock issuable under our 2008 Stock Plan ("2008 Plan") from 3,120,000 to 3,495,000 shares. In January 2018, our board of directors and stockholders approved an increase in the total number of shares of common stock issuable under our 2008 Plan to 4,020,000 shares.

Our board of directors has adopted and our stockholders have approved our 2018 Equity Incentive Plan ("2018 Plan"). Our 2018 Plan became effective on February 8, 2018, the date our registration statement in connection with our IPO was declared effective. We do not expect to grant any additional awards under the 2008 Plan. Any awards granted under the 2008 Plan will remain subject to the terms of our 2008 Plan and applicable award agreements.

Initially, the aggregate number of shares of our common stock that may be issued pursuant to stock awards under the 2018 Plan was the sum of (i) 1,875,000 shares plus (ii) 61,247 shares reserved, and remaining available for issuance, under our 2008 Plan at the time our 2018 Plan became effective and (iii) the number of shares subject to stock options or other stock awards granted under our 2008 Plan that would have otherwise returned to our 2008 Plan (such as upon the expiration or termination of a stock award prior to vesting). As of December 31, 2019, there were 1,345,631 shares of our common stock reserved for issuance under our 2018 Plan. The number of shares of our common stock reserved for issuance under our 2018 Plan will automatically increase on January 1 of each year, beginning on January 1, 2019 and continuing through and including January 1, 2028, by 5% of the total number of shares of our capital stock outstanding on December 31 of the preceding calendar year, or a lesser number of shares determined by our board of directors. Accordingly, the number of shares of our common stock reserved for issuance under our 2018 Plan increased by 1,327,352 shares on January 1, 2020.

The 2018 Plan provides for the grant of stock options, stock appreciation rights, restricted stock awards, restricted stock unit awards, performance-based stock awards and other forms of equity compensation, which are collectively referred to as stock awards. Additionally, the 2018 Plan provides for the grant of performance cash awards.

The following table summarizes the allocation of stock-based compensation on the consolidated statements of operations (in thousands):

	Year Ended December 31,		
	2017	2018	2019
Delivery costs	$ 202	$ 633	$ 711
Sales and marketing expense	1,894	9,358	4,248
Research and development expense	951	4,087	1,619
General and administration expense	2,100	12,712	9,273
Total stock-based compensation expense	$ 5,147	$ 26,790	$ 15,851

During 2017, 2018 and 2019, we capitalized less than $0.1 million of stock-based compensation expense for software development.

Common Stock Options

The term of each option to purchase shares of our common stock pursuant to the Stock Plan is set by our board of directors or a committee thereof. Option awards are generally granted with an exercise price not less than the fair value per share of our common stock at the grant date. Option awards generally vest over four years and expire 10 years following the date of grant.

A summary of common stock option activity is as follows (in thousands, except per share amounts):

	Shares	Weighted-Average Exercise Price Per Share	Weighted Average Contractual Life (in years)	Aggregate Intrinsic Value[(1)] (in thousands)
Outstanding - December 31, 2018	1,774	$ 20.55		
Granted	39	20.64		
Exercised	(716)	16.84		21,399
Forfeited	(31)	23.95		
Cancelled	(66)	22.37		
Outstanding - December 31, 2019	1,000	$ 22.99	6.51	$ 39,894
Exercisable - December 31, 2019	757	$ 22.45	6.29	$ 30,586

(1) The aggregate intrinsic value represents the total pre-tax intrinsic value based on the $62.86 closing price of our common stock as reported on the Nasdaq Global Market on December 31, 2019 that would have been received by option holders had all in-the-money options been exercised on that date.

The total fair value of options vested during 2017, 2018 and 2019 was approximately $4.3 million, $6.0 million and $4.8 million, respectively. As of December 31, 2019, $2.8 million of unrecognized compensation expense related to unvested options will be recognized over a weighted-average period of 1.1 years. All stock option awards outstanding as of December 31, 2019 are expected to vest.

During 2017, we granted 799,129 options to purchase shares of our common stock to employees with a weighted-average exercise price of $23.78 per share. We determined that a retrospective valuation of the fair value of our common stock on each grant date in 2017 was appropriate for financial reporting purposes. In connection with the preparation of our retrospective valuation, we noted that the fair value of our common stock, as determined by contemporaneous third-party valuations, was $24.48 per share on December 31, 2016, $27.68 per share on February 28, 2017, $30.44 per share on May 15, 2017 and $24.24 per share on September 30, 2017. The changes in fair value of our common stock primarily resulted from the dilutive effect of our Series G Stock financing, the timing of future potential liquidity events, changes to our forecasted financial results and changes in the valuation of comparable companies. We derived the fair value of our common stock on December 31, 2017 using a similar interpolation methodology and determined the fair value of our common stock to be $26.74 per share.

We determine the grant date fair value of options using the Black-Scholes option pricing model, which is affected by the estimated fair value of our common stock as well as the following significant inputs:

	Year Ended December 31,
	2017
Weighted-average grant date fair value	$12.11
Significant inputs:	
Value of common stock	$24.60 - $28.16
Expected term	7.0 years
Volatility	50% to 51%
Risk-free interest rate	0.7% - 2.2%

Restricted Stock Units

We grant restricted stock units ("RSUs") to employees and our non-employee directors. A summary of RSU activity, inclusive of performance-based RSUs, is as follows (in thousands, except per share amounts):

	Shares	Weighted-Average Grant Date Fair Value Per Share	Weighted-Average Remaining Contractual Term (in years)	Unamortized Compensation Costs (in thousands)
Unvested - December 31, 2017	—	$ —		
Granted	1,309	20.58		
Vested	(850)	21.93		
Forfeited/canceled	(78)	17.97		
Unvested - December 31, 2018	381	$ 18.11		
Granted	1,978	17.78		
Vested	(486)	14.97		
Forfeited	(132)	18.92		
Unvested - December 31,2019	1,741	$ 18.55		
Expected to Vest	1,428	$ 19.22	3.09	$ 20,389

Service-based Restricted Stock Units

During 2018, we granted 434,377 RSUs to our employees and non-employee directors, which have annual vesting periods ranging from one to four years. As of December 31, 2018, there was approximately $4.5 million of unrecognized compensation expense related to RSUs, which is expected to be recognized over a weighted-average period of 2.4 years.

During 2019, we granted 725,832 RSUs to employees and our non-employee directors, which have annual vesting periods ranging from one to four years. As of December 31, 2019, there was approximately $20.4 million of unrecognized compensation expense related to RSUs, which is expected to be recognized over a weighted-average period of 3.09 years. The aggregate intrinsic values based on the $62.86 closing price of our common stock as reported on the Nasdaq Global Market on December 31, 2019 of unvested RSUs is $109.5 million and RSUs expected to vest is $89.8 million as of December 31, 2019.

Subsequent to December 31, 2019, we granted 188,422 RSUs to employees, which have annual vesting periods ranging from one to four years. The unamortized stock-based compensation expense related to these RSUs is approximately $15.9 million.

Performance-based Restricted Stock Units

During 2018, we granted two separate tranches of performance-based RSUs ("2018 PSUs"), each to receive 437,500 shares of common stock, to employees. The vesting of the 875,000 2018 PSUs was contingent upon the completion of our IPO and includes other performance-based conditions. The performance condition in the first tranche was to be satisfied when we attained 70.0 million of FI monthly active users ("FI MAUs") within three years of the grant date. The performance condition in the second tranche was to be satisfied when we attained 85.0 million of average FI MAUs within five years of the grant date. FI MAUs is a performance metric defined within "Management's Discussion and Analysis of Financial Condition and Results of Operations." We recognize stock compensation for these 2018 PSUs based upon the expected timing of the achievement of these FI MAU targets. During 2018, 25,000 of the 2018 PSUs were forfeited prior to the FI MAU targets being reached. During 2018, both average FI MAU targets were reached, resulting in the vesting of both tranches of the 2018 PSUs and the issuance of 850,000 shares of our common stock to fully settle the 2018 PSUs. During 2018, we recognized $18.6 million of stock-based compensation expense related to these awards.

During 2019, we granted 1,252,500 performance-based RSUs (“2019 PSUs”). The 2019 PSUs are composed of four equal tranches, each of which have an independent performance-based vesting condition. The vesting criteria for the four tranches are as follows:

- a minimum growth rate in adjusted contribution over a trailing 12-month period,
- a minimum number of advertisers that are billed above a specified amount over a trailing 12-month period,
- a minimum cumulative adjusted EBITDA target over a trailing 12-month period, and
- a minimum trailing 30-day average closing price of our common stock.

The vesting conditions of each of the four tranches must be achieved within four years of the grant date. Upon a vesting event, 50% of the related tranche vests immediately, 25% of the related tranche vests six months after achievement date and 25% of the related tranche vests 12 months after the achievement date. Adjusted EBITDA and adjusted contribution are performance metrics defined within "Management's Discussion and Analysis of Financial Condition and Results of Operations." During 2019, the Compensation Committee of our Board of Directors certified that the targets for both the average closing price of our common stock and adjusted EBITDA were achieved resulting in the immediate vesting of 50% of each related PSU tranche.

Restricted Securities Units

During 2016, we granted $1.0 million of restricted securities units to certain executives in lieu of cash bonuses. Upon issuance, the restricted securities units were indexed to the convertible promissory notes. As a result of the Series G Stock financing, the restricted securities units became indexed to our Series G’ Stock upon conversion of the convertible promissory notes. Upon the consummation of our IPO in February 2018, the restricted securities units became indexed to our common stock.

Vesting requirements included both a service-based condition and a performance-based condition. The service-based condition required each recipient to remain employed until the earlier of i) the date 6 months from the restricted securities unit grant date, ii) the date of a qualified liquidity event, or iii) date of termination without cause. The performance-based condition required a sale of the Company or IPO event within a fixed period of time not more than 5 years from the restricted securities units grant date. The restricted securities units were considered liability classified awards, but due to the performance condition relating to sale of the Company or IPO, no compensation cost was recognized until one of these events occurred. These units vested upon the consummation of our IPO in February 2018, resulting in a non-cash expense of $0.5 million, and were settled upon the delivery of 37,406 shares of our common stock in August 2018.

Employee Stock Purchase Plan

Our board of directors has adopted and our stockholders have approved our 2018 Employee Stock Purchase Plan ("2018 ESPP"). Our 2018 ESPP became effective on February 8, 2018, the date our registration statement in connection with our IPO was declared effective and enables eligible employees to purchase shares of our common stock at a discount. Purchases will be accomplished through participation in discrete offering periods. On each purchase date, eligible employees will purchase our common stock at a price per share equal to 85% of the lesser of the fair market value of our common stock on the first trading day of the offering period or the date of purchase. During 2018 and 2019, a total of 177,238 and 154,601 shares of common stock were purchased by employees under the 2018 ESPP, respectively.

As of December 31, 2019, 267,823 shares of common stock were reserved for issuance pursuant to our 2018 ESPP. Additionally, the number of shares of our common stock reserved for issuance under our 2018 ESPP will automatically increase on January 1 of each year, beginning on January 1, 2019 and continuing through and including January 1, 2026, by the lesser of (i) 1% of the total number of shares of our common stock outstanding on December 31 of the preceding calendar year, (ii) 500,000 shares of our common stock or (iii) such lesser number of shares of common stock as determined by our board of directors. Accordingly, the number of shares of our common stock reserved for issuance under our 2018 ESPP increased by 265,470 shares on January 1, 2020. Shares subject to purchase rights granted under our 2018 ESPP that terminate without having been issued in full will not reduce the number of shares available for issuance under our 2018 ESPP.

8. INCOME TAXES

Domestic and foreign components of loss before income taxes are as follows (in thousands):

	Year Ended December 31,		
	2017	2018	2019
Domestic	$ (16,711)	$ (48,897)	$ (13,464)
Foreign	(2,930)	(4,145)	(3,680)
Loss before income taxes	$ (19,641)	$ (53,042)	$ (17,144)

The significant components of income tax (expense) benefit are as follows (in thousands):

	Year Ended December 31,		
	2017	2018	2019
Current:			
Federal	$ —	$ —	$ —
State	—	—	—
Foreign [(1)]	—	—	—
Total current	—	—	—
Deferred:			
Federal	(28,331)	6,896	1,326
State	2,345	1,264	622
Foreign	85	916	222
Change in uncertain tax positions	(120)	(105)	598
Change in valuation allowance	26,021	(8,971)	(2,768)
Total deferred	—	—	—
Income tax benefit	$ —	$ —	$ —

(1) The current income tax (expense) for the year ended December 31, 2019 excludes Indian income tax expense of less than $0.1 million.

The following table summarizes the significant differences between the U.S. federal statutory tax rate and our effective tax rate:

	Year Ended December 31,		
	2017	2018	2019
Tax benefit at federal statutory rate	34.00 %	21.00 %	21.00 %
State income taxes, net of federal benefit	1.82 %	1.91 %	— %
Change in federal and state statutory rate	(156.32)%	0.03 %	0.34 %
Foreign rate differential	(1.04)%	(0.06)%	(0.20)%
Other adjustments	(10.93)%	(5.97)%	(5.18)%
Valuation allowance	132.47 %	(16.91)%	(16.18)%
Income tax benefit	— %	— %	(0.22)%

The significant components of deferred income taxes are as follows (in thousands):

	December 31,	
	2018	2019
Net operating loss carry-forwards	$ 60,718	$ 64,348
Allowance for doubtful accounts	26	28
Depreciation and amortization	(856)	(1,321)
Stock-based compensation	1,968	2,727
Deferred costs	1,334	2,275
IRC Section 163(j) interest expense limitation	737	436
Other tax credit carry-forward	3,071	1,419
Other temporary differences	465	319
Valuation allowance	(67,463)	(70,231)
Net long-term deferred tax liability	$ —	$ —

On December 22, 2017, the Tax Cuts and Jobs Act of 2017 (“Tax Act”) was signed into law making significant changes to the IRC. Changes include, but are not limited to, a corporate tax rate decrease to 21% effective for tax years beginning after December 31, 2017. This change in tax rate resulted in a reduction in our net U.S. deferred tax assets, which was fully offset by a reduction in our valuation allowance. The other provisions of the Tax Act, including the one-time transition tax on the mandatory deemed repatriation of cumulative foreign earnings, did not have a material impact on our financial statements as of December 31, 2019.

We have generated historical net losses and recorded a full valuation allowance against our net deferred tax assets. We expect to maintain a full valuation allowance in the near term. Realization of any of our net deferred tax assets depends upon future earnings, the timing and amount of which are uncertain.

The following table presents changes in our valuation allowance (in thousands):

	Year Ended December 31,		
	2017	2018	2019
Beginning balance	$ (84,483)	$ (58,649)	$ (67,463)
Allowance for domestic and foreign net operating loss carry-forwards	(6,509)	(9,863)	(3,598)
Rate change on domestic net operating loss carry-forwards	30,705	(17)	(32)
Change in foreign currency	(187)	157	—
Other changes	1,825	909	862
Ending balance	$ (58,649)	$ (67,463)	$ (70,231)

As of December 31, 2018 and 2019 we have $249.8 million and $266.8 million, respectively, of gross U.S. federal net operating loss carry forwards that will begin to expire in the 2028 tax year. Additionally, we have $90.5 million and $98.4 million of gross state net operating loss carry-forwards as of December 31, 2018 and 2019, respectively that will also begin to expire in the 2028 tax year.

Ownership changes, as defined by IRC Section 382, may limit the amount of net operating losses that a company may utilize to offset future taxable income and taxes payable. Pursuant to IRC Section 382, an ownership change occurs when the stock ownership of 5% stockholders increases by more than 50% over a testing period of three years. We have experienced ownership changes in the past, and it is possible that we have undergone ownership changes subsequent to December 5, 2018, the date of our most recent evaluation, or that we may undergo such a change in the future. Any such ownership change may limit our ability to utilize net operating losses.

Our results during 2017, 2018 and 2019 reflect state tax credits related to hiring and research activities that are utilized through the reduction of state payroll tax withholdings totaling $0.8 million, $0.7 million and $1.3 million, respectively.

As of December 31, 2018 and 2019, Cardlytics UK had gross net operating losses of $13.9 million and $12.1 million, respectively. Foreign net operating loss carry-forwards expire according to the rules of each country. In the U.K., there is an indefinite carry-forward period. As of December 31, 2019, Cardlytics UK held cash and cash equivalents of $4.8 million. While our investment in Cardlytics UK is not considered to be permanently invested, we do not plan to repatriate these funds. Further, although the tax basis of our investment in Cardlytics UK exceeds its book basis, we have not recorded a deferred tax asset since we do not believe that a reversal of this temporary difference will occur in the foreseeable future.

The following table summarizes the activity related to our gross unrecognized tax benefits that would affect our effective tax rate, if recognized (in thousands):

	Year Ended December 31,		
	2017	2018	2019
Beginning balance	$ 558	$ 678	$ 783
Increase related to current year tax position	120	105	(598)
Ending balance	$ 678	$ 783	$ 185

All such positions, if recognized, would impact our effective tax rate. We do not currently anticipate any of our positions to change significantly in the next 12 months. Our tax filings from inception remain subject to income tax examinations.

9. REDEEMABLE CONVERTIBLE PREFERRED STOCK

Upon the consummation of our IPO, all of the outstanding shares of redeemable convertible preferred stock were automatically converted into shares of common stock. Refer to Note 1—Nature of Operations for additional information regarding our IPO.

A summary of the change in carrying amount of the outstanding redeemable convertible preferred stock is as follows (in thousands):

	Series G' Stock		Series G Stock	
	Shares	Amount	Shares	Amount
Balance — December 31, 2017	1,296	$ 44,672	346	$ 5,110
Conversion of preferred stock to common stock	(1,296)	(44,672)	(346)	(5,218)
Accretion of redeemable convertible preferred stock	—	—	—	108
Balance — December 31, 2018	—	—	—	—

	Series F/F-R Stock		Series E/E-R Stock		Series D/D-R Stock	
	Shares	Amount	Shares	Amount	Shares	Amount
Balance — December 31, 2016	1,199	$ 57,958	795	$ 29,963	1,396	$ 32,642
Accretion of redeemable convertible preferred stock	—	491	—	9	—	86
Balance — December 31, 2017	1,199	$ 58,449	795	$ 29,972	1,396	$ 32,728
Accretion of redeemable convertible preferred stock	—	38	—	1	—	7
Conversion of preferred stock to common stock	(1,199)	(58,487)	(795)	(29,973)	(1,396)	(32,735)
Balance — December 31, 2018	—	$ —	—	$ —	—	$ —

	Series C/C-R Stock		Series B/B-R Stock		Series A/A-R Stock	
	Shares	Amount	Shares	Amount	Shares	Amount
Balance — December 31, 2016	1,508	$ 18,323	2,247	$ 5,286	1,857	$ 1,850
Accretion of redeemable convertible preferred stock	—	43	—	2	—	2
Balance — December 31, 2017	1,508	$ 18,366	2,247	$ 5,288	1,857	$ 1,852
Accretion of redeemable convertible preferred stock	—	3	—	—	—	—
Conversion of preferred stock to common stock	(1,508)	(18,369)	(2,247)	(5,288)	(1,857)	(1,852)
Balance — December 31, 2018	—	$ —	—	$ —	—	$ —

During 2016, we issued convertible promissory notes to our founders and the existing holders of our redeemable convertible preferred stock. Shares of redeemable convertible preferred stock held by investors that participated in the financing were exchanged for shares of replacement preferred stock. Replacement shares were issued for 1,856,998 shares of Series A Stock, 2,246,744 shares of Series B Stock, 1,507,906 shares of Series C Stock, 1,395,936 shares of Series D Stock, 795,027 shares of Series E Stock and 1,198,637 shares of Series F Stock. These replacement shares have rights and preferences equal to their corresponding original series and are designated as Series A-R Stock, Series B-R Stock, Series C-R Stock, Series D-R Stock, Series E-R Stock and Series F-R Stock. Shares of redeemable convertible preferred stock held by investors that did not participate in the financing were converted to common stock and consisted of 12,375 shares of Series A Stock, 2,121 shares of Series B Stock and 397,515 shares of Series E Stock.

In February 2017, we amended and restated our certificate of incorporation reducing the authorized number of shares of our redeemable convertible preferred stock to 82,683,212 and canceled Series A Stock, Series B Stock, Series C Stock, Series D Stock, Series E Stock and Series F Stock. Pursuant to our convertible promissory note financing, these series of preferred stock were either exchanged for shares of replacement preferred stock with rights and preferences equal to their corresponding original series or converted to common stock.

Series G Stock Financing

In May 2017, we amended and restated our certificate of incorporation and increased the authorized number of shares of our common stock to 83,000,000 and increased the authorized number of shares of our redeemable convertible preferred stock to 96,131,002. In May 2017, we issued and sold, for aggregate consideration of $11.9 million, an aggregate of 346,334 shares of Series G redeemable convertible preferred stock, par value $0.0001 per share with a stated price of $34.4758 per share ("Series G Stock"), and warrants to purchase shares of our common stock. Issuance costs incurred in connection with the sale of Series G Stock totaled $0.1 million.

Conversion of Convertible Promissory Notes into Series G' Stock

In connection with the Series G Stock financing in May 2017, the Existing Stockholder Notes and the Outstanding Obligation Note converted into 1,295,746 shares of Series G' redeemable convertible preferred stock, par value $0.0001 per share ("Series G' Stock"), at a price per share of $27.58. The Series G' Stock carried a stated dividend of $2.758 per annum, payable quarterly when, as, and if declared by our board of directors. These dividends were noncumulative in nature. The Series G' Stock was entitled to certain anti-dilution protections.

Common Stock Warrants Issued in Connection with the Series G Stock Financing

In connection with the Series G Stock financing, we issued warrants to purchase an aggregate number of shares of common stock equal to the product obtained by multiplying 346,334 by a fraction, the numerator of which is the difference between $68.9516 and the volume weighted average closing price of our common stock over the 30 trading days (or such lesser number of days as our common stock has been traded on the Nasdaq Global Market) prior to the date on which such warrants vest and become exercisable and the denominator of which is such volume weighted average closing price, which warrants vested and became exercisable on August 8, 2018, which was 180 days following the date of our IPO, at an exercise price of $0.0004 per share. In August 2018, we issued warrants to purchase 792,434 shares of common stock at an exercise price of $0.0004 per share to the cash investors of our Series G financing, pursuant to our Series G stock purchase agreement. The warrants had a valuation of $15.3 million upon issuance and were immediately exercised. Refer to Note 11—Fair Value Measurements for additional information regarding the valuation of the warrants issued in connection with the Series G Stock financing.

Beneficial Conversion Feature

The aggregate proceeds of $11.9 million from the Series G Stock financing were first allocated to the warrants to purchase shares of our common stock, which qualify as liabilities under ASC 480 and are recorded at fair value, with the residual value of $4.5 million allocated to our Series G Stock. As a result of this allocation, Series G Stock was determined to contain a beneficial conversion feature with an intrinsic value of $6.1 million. The amount assigned to the beneficial conversion feature was limited to the $4.5 million residual value allocated to Series G Stock and is classified as a component of additional paid-in capital. During 2017, we recorded a deemed dividend of $4.5 million related to the beneficial conversion feature, which is reflected below net loss to arrive at net loss available to common stockholders.

Redemption

At any time on or after May 4, 2022, upon written request of the holders of not less than 66 2/3% of the shares of redeemable convertible preferred stock then-outstanding, voting together as a single class on an as-converted to common stock basis, we were required to redeem all outstanding shares of redeemable convertible preferred stock in eight quarterly installments. The Series A-R Stock, Series B-R Stock, Series C-R Stock, Series D-R Stock, Series E-R Stock, Series F-R Stock, Series G Stock and Series G' Stock were redeemable at prices equal to $1.00, $2.3567, $12.2686, $23.64, $37.7344, $58.40, $34.4758 and $34.4758 per share, plus any declared or accumulated but unpaid dividends, respectively.

To the extent that we had insufficient funds to redeem all outstanding shares of redeemable convertible preferred stock, we were required to first redeem shares of Series G Stock and Series G' Stock, then shares of Series F/F-R Stock, then shares of Series E/E-R Stock, then shares of Series D/D-R Stock, then shares of Series C/C-R Stock and then shares of Series B/B-R Stock and Series A/A-R Stock *pari passu*, in each case on a pro rata basis among the holders thereof.

The redeemable convertible preferred stock carrying amount was increased by periodic accretions, using the interest method, so that the carrying amount would equal the redemption amount at May 4, 2022. Accretion was recorded through a charge against additional paid-in capital.

Liquidation

Upon us (i) selling or otherwise disposing of all or substantially all of our property or business or merging with or into or consolidation with any other corporation, limited liability company or other entity, (ii) a majority of the voting power of our outstanding capital stock being transferred or disposed of as a result of a transaction or series of related transactions that are not issuances of capital stock by us primarily for the purposes of raising equity capital or (iii) any dissolution or winding-up of our business, the holders of Series A-R Stock, Series B-R Stock, Series C-R Stock, Series D-R Stock, Series E-R Stock, Series F-R Stock, Series G Stock and Series G' Stock were entitled to receive payments in amounts per share equaling $1.00, $2.3567, $21.4701, $23.64, $37.7344, $58.40, $68.9516, and $34.4758, plus any declared but unpaid dividends, respectively. Holders of Series G Stock and Series G' Stock are *pari passu* and were to be paid prior, and in preference to, any distribution of assets to the holders of all other classes of capital stock. Holders of Series F-R Stock were to be paid prior, and in preference to, any distribution of assets to the holders of Series E-R Stock, Series D-R Stock, Series C-R Stock, Series B-R Stock and Series A-R Stock. Holders of Series E-R Stock were to be paid prior, and in preference to, any distribution of assets to the holders of Series D-R Stock, Series C-R Stock, Series B-R Stock and Series A-R Stock. Holders of Series D-R Stock were to be paid prior, and in preference to, any distribution of assets to the holders of Series C-R Stock, Series B-R Stock and Series A-R Stock. Holders of Series C-R Stock were to be paid prior, and in preference to, any distribution of assets to the holders of Series B-R Stock and Series A-R Stock. Holders of Series A-R Stock and Series B-R Stock are *pari passu* and were to be paid prior, and in preference to, any distribution of assets to the holders of common stock.

Upon completion of the distributions detailed above, any remaining assets were to be distributed to the holders of common stock, Series A-R Stock, Series B-R Stock, Series C-R Stock, Series D-R Stock, Series E-R Stock, Series F-R Stock, Series G Stock and Series G' Stock; such participation in the distribution of remaining assets would cease, however, when the amount that the holders of Series A-R Stock, Series B-R Stock, Series C-R Stock, Series D-R Stock, Series E-R Stock, Series F-R Stock, Series G Stock and Series G' Stock were entitled to receive upon liquidation equals $2.00 per share, $4.7134 per share, $36.8058 per share, $70.92 per share, $113.2032 per share, $175.20 per share, $103.4274 per share and $103.4274 per share, respectively, plus any declared but unpaid dividends thereon.

If, however, as a result of a conversion from redeemable convertible preferred stock to common stock, a holder would receive, in the aggregate, an amount greater than the amount that would be distributed to such holder if such holder did not convert such series of redeemable convertible preferred stock into shares of common stock, such holder would have been deemed to have converted such holder's shares of redeemable convertible preferred stock into shares of common stock for the purposes of determining the amount that such holder is entitled to receive upon liquidation and would not have been entitled to any distribution that would have otherwise been made to the holders of redeemable convertible preferred stock detailed above.

Dividends

No dividends have been declared or paid as of December 31, 2019.

Conversion

The holders of our redeemable convertible preferred stock also had the right, at any time, to convert any or all of their shares into such number of shares of common stock as is determined by dividing $1.00 in the case of Series A-R Stock, $2.3567 in the case of the Series B-R Stock, $12.2686 in the case of Series C-R Stock, $23.64 in the case of Series D-R Stock, $37.7344 in the case of Series E-R Stock, $50.0568 in the case of Series F-R Stock, and $34.4758 in the case of Series G Stock and Series G' Stock by the applicable conversion price. The initial conversion price was $1.00 in the case of Series A-R Stock, $2.3567 in the case of the Series B-R Stock, $2.3567 in the case of Series C-R Stock, $23.64 in the case of Series D-R Stock, $37.7344 in the case of Series E-R Stock, $50.0568 in the case of Series F-R and $34.4758 in the case of Series G Stock and Series G' Stock. If, at any time following the initial issuance of shares of Series G Stock, we had issued any additional shares of capital stock without consideration or for a consideration per share less than the then-effective conversion price for our redeemable convertible preferred stock, the conversion price for all series of outstanding redeemable convertible preferred stock would have been subject to adjustment.

10. COMMON STOCK WARRANTS

We have granted warrants to purchase shares of our common stock to certain FI partners that include both time-based and performance-based vesting conditions. These warrants are accounted for under ASC Topic 505-50, *Equity-Based Payments to Non-Employees*. Since the performance conditions contained in these warrants are directly related to revenue-producing activities, we incur non-cash expense in FI Share and other third-party costs on our consolidated statements of operations based on the vesting-date fair value of our common stock underlying these warrants.

A summary of common stock warrant activity, exclusive of the common stock warrants issued in connection with our Series G financing is as follows (in thousands, except per share amounts):

	Shares	Weighted-average exercise price per share
Warrants Outstanding - December 31, 2016	583	$ 7.52
Granted	17	27.68
Warrants Outstanding - December 31, 2017	600	8.11
Granted[1]	644	23.64
Exercised	(349)	4.69
Redeemable convertible preferred stock warrants converted to common stock warrants	110	12.16
Forfeited/canceled	(138)	5.85
Warrants Outstanding - December 31, 2018	867	21.89
Exercised	(821)	21.89
Forfeited/canceled	(34)	21.29
Warrants Outstanding - December 31, 2019	12	$ 23.64

(1) Performance-based warrants to purchase 644,365 shares of our Series E Stock, which were converted to common stock warrants, vested upon the completion of our IPO in February 2018. These warrants are not included within this table in periods prior to their vesting.

In June 2017, we issued our lender additional warrants to purchase 17,500 shares of common stock at a price of $27.68 per share.

During 2017, warrants to purchase shares of redeemable convertible preferred stock held by parties that did not participate in the Existing Stockholder Note financing were converted to common stock warrants. As a result, fully vested warrants to purchase 12,500 shares of our Series A Stock at an exercise price of $1.00 per share, fully vested warrants to purchase 25,000 shares of our Series B Stock at an exercise price of $2.36 per share and unvested performance-based warrants to purchase 644,365 shares of our Series E Stock at an exercise price of $23.64 per share were converted to common stock warrants. The performance-based warrants to purchase 644,365 shares of our Series E Stock, which were converted to common stock warrants, vested upon the consummation of our IPO in February 2018 as discussed in Note 12—Related Parties. The conversion date fair value of the Series A Stock warrants and Series B Stock warrants, which were converted to common stock warrants, was reclassified from redeemable convertible preferred stock warrant liability to additional paid-in capital. See Note 11—Fair Value Measurements for more information.

All common stock warrants outstanding at December 31, 2019 were net exercised in January 2020.

11. FAIR VALUE MEASUREMENTS

Financial assets and liabilities are classified in their entirety based on the lowest level of input that is significant to the fair value measurement. The following table summarizes our liabilities measured at fair value on a recurring basis by level within the fair value hierarchy (in thousands):

	December 31, 2017			
	Level 1	Level 2	Level 3	Total
Liabilities:				
Preferred stock warrants(1)	$ —	$ —	$ 2,285	$ 2,285
Common stock warrants(1)	—	—	7,945	7,945
Total liabilities	$ —	$ —	$ 10,230	$ 10,230

(1) Warrant liabilities were zero as of December 31, 2018 and 2019.

Instruments Recorded at Fair Value Using Level 3 Inputs

Our redeemable convertible preferred stock warrants, common stock warrants issued in connection with the Series G Stock financing and our convertible promissory notes are measured and recorded at fair value on a recurring basis using Level 3 inputs. The table below provides a roll forward of the changes in fair value of Level 3 financial instruments (in thousands):

	Preferred Stock Warrants	Common Stock Warrants	Convertible Promissory Notes
Balance at December 31, 2016	$ 2,197	$ —	$ 72,332
Fair value of convertible promissory notes at issuance	—	—	(44,672)
Conversion of convertible promissory notes to Series G' preferred stock	—	—	(24,392)
Accrued interest on convertible promissory notes	—	—	1,701
Issuance of common stock warrants	—	7,452	—
Changes in fair value	88	493	(4,969)
Balance at December 31, 2017	$ 2,285	$ 7,945	$ —

	Preferred Stock Warrants	Common Stock Warrants	Convertible Promissory Notes
Balance at December 31, 2017	$ 2,285	$ 7,945	$ —
Conversion of convertible promissory notes to common stock	(1,736)	—	—
Issuance of common stock warrants	(549)	7,309	—
Changes in fair value	—	(15,254)	—
Balance at December 31, 2018	$ —	$ —	$ —

In valuing our instruments recorded at fair value using Level 3 inputs, our board of directors determined the equity value of our business generally using a combination of the income approach and the market approach valuation methods.

The income approach estimates value based on the expectation of future cash flows that a company will generate, such as cash earnings, cost savings, tax deductions and the proceeds from disposition. These future cash flows are discounted to their present values using a discount rate derived based on an analysis of the cost of capital of comparable publicly traded companies in similar lines of business, as of each valuation date, and is adjusted to reflect the risks inherent in our cash flows.

The market approach estimates the fair value of a company by applying market multiples of comparable publicly traded companies in a similar line of business. The market multiples are based on relevant metrics implied by the price that investors have paid for the equity of publicly traded companies. Given our significant focus on investing in and growing our business, we primarily utilized the forward-looking revenue multiple when performing valuation assessments under the market approach and considered both trading and transaction multiples. When considering which companies to include as our comparable industry peer companies, we focused on U.S.-based publicly traded companies that were broadly comparable to us based on consideration of industry, market and line of business. From the comparable companies, a representative market value multiple was determined and applied to our operating results to estimate the value of our company. The market value multiple was determined based on consideration of multiples of revenue to each of the comparable companies' historical and forecasted revenue. In addition, the market approach considers IPO and merger and acquisition transactions involving companies similar to the company's business being valued. Multiples of revenue are calculated for these transactions and then applied to the business being valued, after reduction by an appropriate discount.

Once an equity value was determined, beginning January 1, 2017, we utilized probability-weighted expected return method ("PWERM") to allocate the overall value of equity to the various share classes. The PWERM relies on a forward-looking analysis to predict the possible future value of a company. Under this method, discrete future outcomes, including an IPO and non-IPO scenarios, are weighted based on the estimated the probability of each scenario. The PWERM is used when discrete future outcomes can be predicted with reasonable certainty based on a probability distribution. We relied on the PWERM to allocate the value of equity under a liquidity scenario. The projected equity value relied upon in the PWERM scenario was based on (i) guideline IPO transactions involving companies that were considered broadly comparable to us and (ii) our expectation of the pre-money valuation that we needed to achieve to consider an IPO as a viable exit strategy.

The following table summarizes key assumptions used in the PWERM for estimating the fair value of our redeemable convertible preferred stock warrant liability:

	Year Ended December 31,
	2017
Cost of debt applicable to convertible promissory notes	—%
Cost of equity applicable to convertible promissory notes	—%
Weighted-average cost of capital applicable to preferred stock warrants	21%
Discount for lack of marketability	7% to 13%
Volatility	55%
Risk-free interest rate	1.2% to 1.4%

Preferred Stock Warrants

Upon the consummation of our IPO, all of the outstanding warrants to purchase shares of redeemable convertible preferred stock were automatically converted into warrants to purchase shares of common stock. Refer to Note 9—Redeemable Convertible Preferred Stock for additional information regarding our IPO.

A summary of our preferred stock warrants is as follows (in thousands, except per share amounts):

				December 31,		
Preferred Series	**Grant date**	**Expiration date**	**Exercise price**	**2017**	**2018**	**2019**
Series B-R	2/26/2010	2/25/2020	$ 2.36	59	—	—
Series D-R	9/21/2012	9/20/2022	$ 23.64	38	—	—
Series D-R	9/21/2012	9/20/2022	$ 23.64	13	—	—
Total preferred stock warrants				110	—	—

The fair value of the warrants to purchase Series B-R Stock and Series D-R Stock decreased from $26.80 per share and $13.63 per share on December 31, 2017 to $20.18 per share and $10.57 per share on February 8, 2018, respectively, the date at which they converted to warrants to purchase shares of our common stock and were reclassified to additional paid-in capital on our consolidated balance sheet. The decrease in the fair value of the warrants to purchase Series B-R Stock and Series D-R Stock primarily resulted from the timing of future potential liquidity events, changes to our forecasted financial results and changes in the valuation of comparable companies.

Common Stock Warrants

In June 2017, we issued our lender additional warrants to purchase 17,500 shares of common stock at a price of $27.68 per share. The fair value of the warrants issued in June 2017 were calculated to be $0.3 million. We determined the grant date fair value of these common warrants using the Black-Scholes option pricing model, which is affected by the estimated fair value of our common stock as well as the following significant inputs:

	Common stock warrants (issued June 2017)
Weighted-average grant date fair value	$19.04
Significant inputs:	
Value of common stock	$30.08
Expected term	10 years
Volatility	50%
Risk-free interest rate	2.2%
Dividend yield	—%

Common Stock Warrants Issued in Connection with the Series G Stock Financing

In connection with the Series G Stock financing, we issued warrants to purchase an aggregate number of shares of common stock equal to the product obtained by multiplying 346,334 by a fraction, the numerator of which is the difference between $68.9516 and the volume weighted average closing price of our common stock over the 30 trading days (or such lesser number of days as our common stock has been traded on the Nasdaq Global Market) prior to the date on which such warrants vest and become exercisable and the denominator of which is such volume weighted average closing price, which warrants vested and became exercisable on August 8, 2018, which was 180 days following the date of our IPO, at an exercise price of $0.0004 per share.

To determine the fair value of our common stock warrant liability issued in connection with our Series G Stock financing, we utilized a Monte Carlo simulation, which allows for the modeling of complex securities and evaluates many possible outcomes to forecast the stock price of the company post-IPO. As part of the valuation, we considered various scenarios related to the pricing, timing and probability of an IPO. We applied an annual equity volatility of 59% and a discount for lack of marketability of 11% to arrive at a valuation of $7.5 million on the issuance date.

Subsequent to our IPO, the fair value of the common stock warrant liability was estimated based on the fair market value of our common stock at each reporting period, discounted from the date of settlement. In August 2018, we issued warrants to purchase 792,434 shares of common stock at an exercise price of $0.0004 per share to the cash investors of our Series G financing, pursuant to our Series G stock purchase agreement. The warrants had a valuation of $15.3 million upon issuance and were subsequently exercised, resulting in the issuance of 792,434 shares of our common stock. As a result of change in fair value of the common stock warrant liability, we recognized non-cash losses of $0.5 million and $7.3 million in 2017 and 2018, respectively.

Convertible Promissory Notes

Refer to Note 9—Redeemable Convertible Preferred Stock for additional information of the Series G Stock financing and the transactions that resulted in the conversion of the convertible promissory notes into shares of our Series G' Stock.

The redemption features included in the terms of the convertible promissory notes were determined to be derivative liabilities due to a significant discount within the redemption features for the note holders. Embedded derivatives that are not clearly and closely related to the host contract are required to be bifurcated and recorded at fair value unless the fair value option is elected on the host contract. Under the fair value option, bifurcation of the embedded derivative is not necessary as all related gains (losses) on the host contract and derivative will be reflected in the consolidated statements of operations. We elected the fair value option for the Existing Stockholder Notes and Aimia Notes, therefore direct costs and fees associated with the issuance were recognized in earnings as incurred and were not deferred.

To determine the fair value of our convertible promissory notes, we utilized key assumptions from the PWERM, as shown above. Under this method, we considered the redemption features of the convertible promissory notes, as described in Note 6—Debt for additional information, to determine the fair value under discrete future outcomes, including IPO and non-IPO scenarios. Under certain non-IPO scenarios, holders of the convertible promissory notes were due to receive two times preference on the outstanding principal amount. We weighted the fair values based on the estimated probability of each scenario to determine the overall fair value of the convertible promissory notes as of the balance sheet date.

Performance-based Warrants Issued to FIS

In May 2013, we granted 10-year performance-based warrants to purchase up to 644,365 shares of Series E Stock at an exercise price of $23.64 per share. Since FIS did not participate in the convertible promissory note financing, their warrants to purchase preferred stock were converted to warrants to purchase common stock. The warrants vested upon the completion of our IPO in February 2018 resulting in a non-cash expense of $2.5 million. We determined the fair value of these common warrants on the date of IPO using the Black-Scholes option pricing model, which is affected by the fair value of our common stock as well as the following significant inputs:

	February 8, 2018
Weighted-average grant date fair value	$3.91
Significant inputs:	
Value of common stock	$13.00
Expected term	5.3 years
Volatility	50%
Risk-free interest rate	2.0%
Dividend yield	—%

12. RELATED PARTIES

Series G / Series G'

In May 2017, we issued and sold, for aggregate consideration of $11.9 million, an aggregate of 346,334 shares of our Series G Stock and warrants to purchase shares of our common stock. In connection with the issuance of our Series G Stock, the principal and accrued interest under convertible promissory notes converted into an aggregate of 1,295,746 shares of our Series G' redeemable convertible preferred stock and 801,329 shares of our common stock. The following table summarizes the participation in the foregoing transactions by our directors, executive officers and holders of more than 5% of any class of our capital stock as of the date of such transactions (in thousands):

Related Party	Shares of Series G Preferred Stock	Shares of Series G' Preferred Stock	Shares of Common Stock	Warrants to Purchase Common Stock
Entities affiliated with Aimia, Inc.[(1)]	—	382	801	—
Entities affiliated with Polaris Venture Partners[(2)]	29	212	—	66
Canaan VIII L.P.[(3)]	54	260	—	123
Entities affiliated with Discovery Capital[(4)]	—	106	—	—
Scott D. Grimes	—	26	—	—
Lynne M. Laube	—	14	—	—
Entities affiliated with Mark A. Johnson[(5)]	35	15	—	80
John Klinck	6	—	—	13
David Adams	3	—	—	7

(1) Consists of 159,207 shares of Series G' redeemable convertible preferred stock issued to Aeroplan Holdings Europe Sàrl, 223,020 shares of Series G' redeemable convertible preferred stock issued to Aimia EMEA Limited and 801,329 shares of common stock issued to Aimia EMEA Limited.

(2) Consists of 27,988 shares of Series G redeemable convertible preferred stock purchased by Polaris Venture Partners V, L.P. ("PVP V"), 205,020 shares of Series G' redeemable convertible preferred stock issued to PVP V, 64,038 warrants to purchase common stock issued to PVP V, 545 shares of Series G redeemable convertible preferred stock purchased by Polaris Venture Partners Entrepreneurs' Fund V, L.L. ("PVP EF V"), 3,995 shares of Series G' redeemable convertible preferred stock issued to PVP EF V, 1,247 warrants to purchase common stock issued to PVP EF V, 191 shares of Series G redeemable convertible preferred stock purchased by Polaris Venture Partners Founders' Fund V, L.P. ("PVP FF V"), 1,404 shares of Series G' redeemable convertible preferred stock issued to PVP FF V, 438 warrants to purchase common stock issued to PVP FF V, 280 shares of Series G redeemable convertible preferred stock purchased by Polaris Venture Partners Special Founders' Fund V, L.P. ("PVP SFF V"), 2,050 shares of Series G' redeemable convertible preferred stock issued to PVP SFF V and 641 warrants to purchase common stock issued to PVP SFF V. Polaris Venture Management Co. V, L.L.C. is a general partner of each of PVP V, PVP EF V, PVP FF V and PVP SFF V and may be deemed to have the sole voting and dispositive power over the shares held by PVP V, PVP EF V, PVP FF V and PVP SFF V. Bryce Youngren, a member of our board of directors, is a Managing Partner of Polaris Partners and may be deemed to share voting and dispositive power over the shares held by PVP V, PVP EF V, PVP FF V and PVP SFF V.

(3) John V. Balen, a member of our board of directors, is a managing member of Canaan Partners VIII LLC, the general partner of Canaan VIII L.P. Mr. Balen does not have voting or investment power over any shares held directly by Canaan VIII L.P.

(4) Consists of 95,272 shares of Series G' redeemable convertible preferred stock issued to Discovery Opportunity Master Fund, Ltd. and 11,072 shares of Series G' redeemable convertible preferred stock issued to Discovery Global Focus Master Fund, Ltd.

(5) Consists of 15,045 shares of Series G' redeemable convertible preferred stock issued to TTP Fund II, L.P., 29,005 shares of Series G redeemable convertible preferred stock purchased by TTV Ivy Holdings, LLC, 66,365 warrants to purchase common stock issued to TTV Ivy Holdings, LLC, 5,801 shares of Series G redeemable convertible preferred stock purchased by Mr. Johnson, and 13,273 warrants to purchase common stock issued to Mr. Johnson. TTV Capital is a provider of management services to TTP GP II, LLC, which is a general partner of TTP Fund II, L.P. TTV Capital is the manager of TTV Ivy Holdings Manager, LLC, which is the general partner of TTV Ivy Holdings, LLC. Mark A. Johnson, a member of our board of directors, is a member of each of TTP GP II, LLC and TTV Ivy Holdings Managers, LLC and holds the title of partner of TTV Capital, and may be deemed to share voting and dispositive power over the shares held by TTP Fund II L.P. and TTV Ivy Holdings, LLC.

Agreements with Fidelity Information Services, LLC

We are party to a reseller agreement with Fidelity Information Services LLC ("FIS"). Pursuant to the reseller agreement, FIS markets and sells our services to financial institutions that are current or potential customers of FIS in exchange for a revenue share percentage. We are also obligated to make milestone payments to FIS related to the integration and deployment of our solutions. Prior to our IPO, FIS was entitled to elect a member of our board of directors, who was Robert Legters until his resignation immediately prior to our IPO in February 2018.

In May 2013, FIS purchased 397,515 shares of our Series E Stock. We also granted 10-year performance-based warrants to purchase up to 644,365 shares of Series E Stock at an exercise price of $23.64 per share. The warrants were exercisable subject to the attainment of certain milestones related to the number of active accounts for which our solutions have been enabled with accelerated vesting upon an IPO. Since FIS did not participate in the convertible promissory note financing, their warrants to purchase preferred stock were converted to warrants to purchase common stock. The warrants vested upon the completion of our IPO in February 2018, resulting in a non-cash expense of $2.5 million based on the vesting-date fair value of our common stock underlying these warrants. Since the performance conditions were directly related to revenue-producing activities, we recognized this expense in FI Share and other third-party costs on our consolidated statement of operations. This expense is presented in other non-cash expenses on our consolidated statement of statement of cash flows. Refer to Note 11—Fair Value Measurements for additional information regarding the valuation of the performance-based warrants issued to FIS.

In September 2019, FIS exercised all of their warrants to purchase common stock, resulting in cash proceeds of $15.2 million and the issuance of 644,365 shares of our common stock.

13. COMMITMENTS AND CONTINGENCIES

FI Implementation Costs

Agreements with certain FI partners require us to fund the development of specific enhancements, pay for certain implementation fees, or make milestone payments upon the deployment of our solution. Amounts paid to FI partners are included in deferred FI implementation costs on our consolidated balance sheets the earlier of when paid or earned and are amortized over the remaining term of the related contractual arrangements. Amortization is included in FI Share and other third-party costs on our consolidated statements of operations and is presented in amortization of deferred FI implementation costs on our consolidated statement of cash flows. Certain of these agreements provide for future reductions in FI Share due to the FI partner. These reductions in FI Share are recorded as a reduction to deferred implementation costs and also result in a cumulative adjustment to accumulated amortization. During 2018, development payments to a certain FI partner totaled $9.3 million which was partially offset by recoveries through FI Share payment reductions of $4.6 million in 2019.

The following table presents changes in deferred FI implementation costs (in thousands):

	December 31,		
	2017	2018	2019
Beginning balance	$ 8,451	$ 13,625	$ 15,877
Deferred costs	10,900	9,250	—
Recoveries through FI Share	(4,100)	(5,380)	(4,625)
Amortization	(1,626)	(1,618)	(2,869)
Ending balance	$ 13,625	$ 15,877	$ 8,383

Payments to FI partners for enhancements not yet placed in service totaled $1.0 million as of December 31, 2019. Future amortization, based on the amounts earned as of December 31, 2019, exclusive of amounts expected to be recovered, is as follows (in thousands):

Years Ending December 31,	Amortization
2020	$ 3,915
2021	3,509
Total	$ 7,424

We have a minimum FI Share commitment with a certain FI partner totaling $10.0 million over a 12-month period following the completion of certain milestones, which were not met as of December 31, 2019. Any expected shortfall will be accrued during the 12-month period following the completion of the milestones.

Operating Leases

We lease property and equipment under non-cancelable operating lease agreements expiring on various dates through April 2026. For leases that contain rent escalation or rent concession provisions, we record the total rent expense during the lease term on a straight-line basis over the term of the lease. On our consolidated balance sheets, the current portion of deferred rent is included in accrued liabilities and the long-term portion is included within deferred liabilities. Rent expense during 2017, 2018 and 2019 totaled $3.0 million, $3.0 million and $3.0 million, respectively.

In August 2013, we entered into a lease of 130 months for our new corporate headquarters in Atlanta, Georgia. The facility was delivered to us in July 2014 and provides 76,880 square feet of office space. The lease contains a $3.8 million tenant improvement allowance that is included in deferred rent and amortized as a reduction to rent expense over the lease term. Minimum lease payments under the agreement total $16.0 million. The lease is secured by an irrevocable letter of credit issued by our lender, which totaled $0.5 million as of December 31, 2019.

In May 2019, we entered into a lease of 36 months for an office in Victoria, London to provide 5,000 square feet of office space. Minimum lease payments under the agreement total £3.8 million.

As of December 31, 2019, future minimum lease payments under non-cancellable operating leases are as follows (in thousands):

Years Ending December 31,	**Minimum Lease Payments**
2020	$ 3,040
2021	2,759
2022	2,808
2023	1,847
2024	1,807
Thereafter	611
Total	$ 12,872

Litigation

From time to time, we may become involved in legal actions arising in the ordinary course of business including, but not limited to, intellectual property infringement and collection matters. We make assumptions and estimates concerning the likelihood and amount of any potential loss relating to these matters using the latest information available. We record a liability for litigation if an unfavorable outcome is probable and the amount of loss or range of loss can be reasonably estimated. If an unfavorable outcome is probable and a reasonable estimate of the loss is a range, we accrue the best estimate within the range. If no amount within the range is a better estimate than any other amount, we accrue the minimum amount within the range. If an unfavorable outcome is probable but the amount of the loss cannot be reasonably estimated, we disclose the nature of the litigation and indicates that an estimate of the loss or range of loss cannot be made. If an unfavorable outcome is reasonably possible and the estimated loss is material, we disclose the nature and estimate of the possible loss of the litigation. We do not disclose information with respect to litigation where an unfavorable outcome is considered to be remote or where the estimated loss would not be material. Based on current expectations, such matters, both individually and in the aggregate, are not expected to have a material adverse effect on our liquidity, results of operations, business or financial condition.

14. EARNINGS PER SHARE

Diluted net loss per share is the same as basic net loss per share for 2017, 2018 and 2019 because the effects of potentially dilutive items were anti-dilutive, given our net loss during these periods. The following securities have been excluded from the calculation of diluted weighted-average common shares outstanding because the effect is anti-dilutive (in thousands):

	December 31,		
	2017	**2018**	**2019**
Redeemable convertible preferred stock	10,644	—	—
Common stock options	2,514	1,774	1,000
Common stock warrants	1,245	867	12
Common stock warrants issuable pursuant to Series G Stock financing	547	—	—
Redeemable convertible preferred stock warrants	110	—	—
Restricted stock units	—	381	1,741
Restricted securities units	37	—	—
Common stock issuable pursuant to the ESPP	—	36	7

15. SEGMENTS

As of December 31, 2019, we have three operating segments: Cardlytics Direct in the U.S. and U.K. and Other Platform Solutions, as determined by the information that both our Chief Executive Officer and President and Chief Operating Officer, who we consider our chief operating decision makers, use to make strategic goals and operating decisions. Our Cardlytics Direct operating segments in the U.S. and U.K. represent our proprietary native bank advertising channels and are aggregated into one reportable segment given their similar economic characteristics, nature of service, types of customers and method of distribution.

Our Other Platform Solutions enabled marketers and marketing service providers to leverage the power of purchase intelligence outside the bank channel. We have shifted the substantial majority of our efforts and resources to support the growth of Cardlytics Direct. As a result, we no longer generate revenue from Other Platform Solutions and do not expect to generate revenue from Other Platform Solutions for the foreseeable future.

Revenue can be directly attributable to each segment. With the exception of a non-cash equity expense and the amortization of deferred FI implementation costs, FI Share is also directly attributable to each segment. Our chief operating decision makers allocate resources to, and evaluate the performance of, our operating segments based on revenue and adjusted contribution. The accounting policies of each of our reportable segments are the same as those described in the summary of significant accounting policies.

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The following table provides information regarding our reportable segments (in thousands):

	Year Ended December 31,		
	2017	2018	2019
Cardlytics Direct:			
Adjusted contribution[2]	$ 55,184	$ 69,364	$ 95,219
Plus: FI Share and other third-party costs [1][2]	67,207	79,959	115,211
Revenue	$ 122,391	$ 149,323	$ 210,430
Other Platform Solutions:			
Adjusted contribution[2]	$ 3,560	$ 86	$ —
Plus: FI Share and other third-party costs [1][2]	4,414	1,275	—
Revenue	$ 7,974	$ 1,361	$ —
Total:			
Adjusted contribution[2]	$ 58,744	$ 69,450	$ 95,219
Plus: FI Share and other third-party costs [1][2]	71,621	81,234	115,211
Revenue	$ 130,365	$ 150,684	$ 210,430

(1) Adjusted FI Share and other third-party costs presented above represents GAAP FI Share and other third-party data costs less a non-cash equity expense included in FI Share and amortization of deferred FI implementation costs, which are detailed below in our reconciliation of GAAP loss before income taxes to adjusted contribution.
(2) Adjusted contribution and FI Share and other third-party costs include the impact of a $0.8 million gain during 2018 related to the renewal of our agreement with an FI partner, which contains certain amendments that are retroactively applied as of January 1, 2018.

Adjusted Contribution

Adjusted contribution measures the degree by which revenue generated from our marketers exceeds the cost to obtain the purchase data and the digital advertising space from our FI partners. Adjusted contribution demonstrates how incremental marketing spend on our platform generates incremental amounts to support our sales and marketing, research and development, general and administration and other investments. Adjusted contribution is calculated by taking our total revenue less our FI Share and other third-party costs exclusive of a non-cash equity expense and amortization of deferred FI implementation costs, which are non-cash costs. Adjusted contribution does not take into account all costs associated with generating revenue from advertising campaigns, including sales and marketing expenses, research and development expenses, general and administrative expenses and other expenses, which we do not take into consideration when making decisions on how to manage our advertising campaigns. We have recast all historical disclosures of adjusted contribution for the periods presented.

The following table presents a reconciliation of loss before income taxes presented in accordance with GAAP to adjusted contribution (in thousands):

	Year Ended December 31,		
	2017	2018	2019
Adjusted contribution[1][2]	$ 58,744	$ 69,450	$ 95,219
Minus:			
Non-cash equity expense included in FI Share[1]	—	2,519	—
Amortization of deferred FI implementation costs[1]	1,626	1,618	2,869
Delivery costs	7,012	10,632	12,893
Sales and marketing expense	31,927	41,878	43,828
Research and development expense	12,150	16,210	11,699
General and administration expense	20,100	34,228	36,720
Depreciation and amortization expense	3,028	3,282	4,535
Total non-operating expense (income)	2,542	12,125	(181)
Loss before income taxes	$ (19,641)	$ (53,042)	$ (17,144)

(1) Non-cash equity expense included in FI Share and amortization of deferred FI implementation costs are excluded from FI Share and other third-party costs, which is shown above in our reconciliation of GAAP revenue to non-GAAP adjusted contribution.
(2) Adjusted contribution includes the impact of a $0.8 million gain during 2018 related to the renewal of our agreement with an FI partner, which contains certain amendments that are retroactively applied as of January 1, 2018.

The following tables provide geographical information (in thousands):

	Year Ended December 31,		
	2017	2018	2019
Revenue:			
United States	$ 113,509	$ 131,563	$ 186,864
United Kingdom	16,856	19,121	23,566
Total	$ 130,365	$ 150,684	$ 210,430

	December 31,	
	2018	2019
Property and equipment:		
United States	$ 9,794	$ 12,052
United Kingdom	436	2,010
India	—	228
Total	$ 10,230	$ 14,290

Capital expenditures within the United Kingdom were less than $0.1 million and $2.0 million during 2018 and 2019, respectively.

Concentrations of Risk

Customers

Financial instruments that potentially subject us to concentrations of credit risk consist primarily of cash and cash equivalents and accounts receivable. Our cash and cash equivalents are held with three financial institutions, which we believe are of high credit quality. We believe that our accounts receivable credit risk exposure is limited as a result of being diversified among a large number of marketers segregated by both geography and industry. Historically, we have not experienced significant write-downs of our accounts receivable. No marketer represented a significant concentration of our accounts receivable as of December 31, 2018. One marketer represented 10% of our accounts receivable as of December 31, 2019. During 2019, one marketer accounted for 11% of our revenue. No marketer accounted for over 10% of revenue during 2017 or 2018.

FI Partners

Our business is substantially dependent on a limited number of FI partners. We require participation from our FI partners in Cardlytics Direct and access to their purchase data in order to offer our solutions to marketers and their agencies. We must have FI partners with a sufficient number of customers and levels of customer engagement to ensure that we have robust purchase data and marketing space to support a broad array of incentive programs for marketers. Our agreements with a substantial majority of our FI partners have terms of three to five years but are generally terminable by the FI partner on 90 days or less prior notice. If an FI partner terminates its agreement with us, we would lose that FI as a source of purchase data and digital banking customers.

During 2017, 2018 and 2019, Bank of America, National Association accounted for 63%, 64% and 36% of the total FI Share we paid to our FI partners, respectively. During 2018 and 2019, JPMorgan Chase Bank, National Association accounted for 6% and 42% of the total FI Share we paid to our FI partners, respectively. During 2017, an FI partner in the U.K. accounted for 12% of the total FI Share we paid to our FI partners. No other FI partners accounted for over 10% of FI Share during 2017, 2018 or 2019.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE.

None.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

We maintain “disclosure controls and procedures,” as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC’s rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company’s management, including its principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

Our management, with the participation of our Chief Executive Officer and our Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures as of December 31, 2019. Based on the evaluation of our disclosure controls and procedures as of December 31, 2019, our Chief Executive Officer and Chief Financial Officer concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

Management’s Report on Internal Controls Over Financial Reporting

Our management is responsible for establishing and maintaining an adequate system of internal control over financial reporting, as defined in the Exchange Act Rule 13a-15(f). Management conducted an assessment of our internal control over financial reporting based on the framework established in 2013 by the Committee of Sponsoring Organizations of the Treadway Commission in Internal Control-Integrated Framework. Based on the assessment, management concluded that, as of December 31, 2019, our internal control over financial reporting was effective.

This Annual Report does not include an attestation report of our registered public accounting firm regarding internal control over financial reporting as required by Section 404(b) of the Sarbanes Oxley Act of 2002. Because we qualify as an emerging growth company under the JOBS Act, management's report was not subject to attestation by our independent registered public accounting firm.

Changes in Internal Control Over Financial Reporting

There was no change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during the three months ended December 31, 2019 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION.

None.

PART III.

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by this item is incorporated by reference to our Proxy Statement for the 2020 Annual Meeting of Stockholders to be filed with the Securities and Exchange Commission ("SEC") within 120 days of the fiscal year ended December 31, 2019.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this item is incorporated by reference to our Proxy Statement for the 2020 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the fiscal year ended December 31, 2019.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by this item is incorporated by reference to our Proxy Statement for the 2020 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the fiscal year ended December 31, 2019.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS AND DIRECTOR INDEPENDENCE

The information required by this item is incorporated by reference to our Proxy Statement for the 2020 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the fiscal year ended December 31, 2019.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The information required by this item is incorporated by reference to our Proxy Statement for the 2020 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the fiscal year ended December 31, 2019.

PART IV.

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

(a) The following documents are filed as part of this Annual Report:

(1) Consolidated Financial Statements and Reports of Independent Registered Public Accounting Firm are shown in the Index to Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K.

(2) All financial statement schedules are omitted because they are not applicable or the required information is shown in the financial statements or notes thereto.

(3) Exhibits are incorporated herein by reference or are filed with this Annual Report as indicated below.

(b) Exhibits:

		Incorporated by Reference			
Exhibit	Exhibit Description	Schedule /Form	File Number	Exhibit	Filing Date
3.1	Amended and Restated Certificate of Incorporation of the Registrant	S-1	333-222531	3.2	1/12/2018
3.2	Amended and Restated Bylaws of the Registrant	S-1	333-222531	3.4	1/12/2018
4.1	Form of Common Stock Certificate of the Registrant	S-1/A	333-222531	4.1	1/29/2018
4.2	Amended and Restated Investors' Rights Agreement by and among the Registrant and certain of its stockholders, dated May 4, 2017	S-1	333-222531	4.2	1/12/2018
4.3	Description of Cardlytics, Inc. Common Stock				
10.1	Office Lease Agreement, dated as of August 5, 2013, by and between the Registrant and Jamestown Ponce City Market, L.P., as amended to date	S-1	333-222531	10.12	1/12/2018
10.2†	2008 Stock Plan and Forms of Option Agreement, Notice of Stock Option Grant, Exercise Notice, Restricted Stock Unit Notice and Restricted Stock Unit Agreement thereunder, as amended to date	S-1/A	333-222531	10.1	1/29/2018
10.3†	2018 Equity Incentive Plan and Forms of Stock Option Agreement, Notice of Exercise and Stock Option Grant Notice thereunder	S-1/A	333-222531	10.2	1/29/2018
10.4†	2018 Employee Stock Purchase Plan	S-1/A	333-222531	10.3	1/29/2018
10.5†	2017 Bonus Plan of the Registrant	S-1	333-222531	10.6	1/12/2018
10.6†	2018 Bonus Plan of the Registrant	S-1/A	333-222531	10.7	1/29/2018
10.7†	Form of restricted securities unit award of the Registrant	S-1	333-222531	10.8	1/12/2018
10.8†	Form of Indemnity Agreement by and between the Registrant and each of its directors and executive officers	S-1	333-222531	10.9	1/12/2018
10.9†	Offer Letter Agreement, dated as of June 11, 2014, by and between the Registrant and David T. Evans	S-1	333-222531	10.10	1/12/2018
10.10†	Form of Amended and Restated Separation Pay Agreement by and between the Registrant and each of Scott D. Grimes, Lynne M. Laube, David T. Evans and Kirk L. Somers	S-1/A	333-222531	10.11	1/29/2018

10.12#	General Services Agreement, dated as of November 5, 2010 by and between the Registrant and Bank of America, N.A., as amended to date	S-1	333-222531	10.15	1/12/2018
10.13#	Software License, Customization and Maintenance Agreement, dated as of November 4, 2010 by and between the Registrant and Bank of America, N.A., as amended to date	S-1	333-222531	10.16	1/12/2018
10.14#	Master Agreement and Schedule #1 to the Master Agreement, dated May 3, 2018 and May 7, 2018, respectively, by and between the Company and JPMorgan Chase Bank, National Association	10-Q	001-38386	10.1	8/14/2018
10.15	Loan and Security Agreement, dated as of May 21, 2018, among Cardlytics, Inc., as Borrower and Pacific Western Bank, as Lender	10-Q	001-38386	10.2	8/14/2018
10.16	2019 Bonus Plan of the Registrant	10-Q	001-38386	10.1	5/9/2019
10.17	First Amendment to Loan and Security Agreement, dated March 27, 2019, among Cardlytics, Inc., as Borrower and Pacific Western Bank, as Lender	10-Q	001-38386	10.2	5/9/2019
10.18	Non-Employee Director Compensation Plan	10-Q	001-38386	10.1	8/8/2019
10.19	Second Amendment to Loan and Security Agreement, dated May 14, 2019, among Cardlytics, Inc., as Borrower and Pacific Western Bank, as Lender	10-Q	001-38386	10.2	8/8/2019
10.20	Third Amendment to Loan and Security Agreement, dated September 24, 2019, among Cardlytics, Inc., as Borrower and Pacific Western Bank, as Lender	10-Q	001-38386	10.1	11/12/2019
10.21***	2019 Amendment to General Services Agreement, dated December 20, 2019, by and between the Registrant and Bank of America, N.A.				
10.22***	2018 Amendment to Schedule #1 to the Master Agreement, dated October 23, 2018, by and between the Registrant and JPMorgan Chase Bank, N.A.				
21.1	Subsidiaries of the Registrant	10-Q	001-38386	21.1	8/14/2018
23.1*	Consent of Deloitte & Touche LLP, independent registered public accounting firm				
31.1*	Certification of Principal Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002				
31.2*	Certification of Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002				
32.1**	Certification of Principal Executive Officer and Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002				
101.ins	XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document				

101.sch	XBRL Taxonomy Schema Linkbase Document
101.cal	XBRL Taxonomy Calculation Linkbase Document
101.def	XBRL Taxonomy Definition Linkbase Document
101.lab	XBRL Taxonomy Label Linkbase Document
101.pre	XBRL Taxonomy Presentation Linkbase Document
104.0	Cover page formatted as Inline XBRL and contained in Exhibit 101

* Filed herewith

** Furnished herewith

*** Certain portions of this exhibit, indicated by asterisks, have been omitted pursuant to Item 601(b)(10) of Regulation S–K because they are not material and would likely cause competitive harm to the registrant if publicly disclosed.

† Indicated management contract or compensatory plan

Confidential treatment has been granted from the Securities and Exchange Commission as to certain portions of this document

ITEM 16. FORM 10-K SUMMARY

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Cardlytics, Inc.

Date: March 3, 2020

By: /s/ Scott D. Grimes
Scott D. Grimes
Chief Executive Officer
(*Principal Executive Officer*)

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Scott D. Grimes Scott D. Grimes	Chief Executive Officer and Director (*Principal Executive Officer*)	March 3, 2020
/s/ David T. Evans David T. Evans	Chief Financial Officer *(Principal Financial and Accounting Officer)*	March 3, 2020
/s/ Lynne M. Laube Lynne M. Laube	Chief Operating Officer and Director	March 3, 2020
/s/ David L. Adams David L. Adams	Director	March 3, 2020
/s/ John V. Balen John V. Balen	Chairman of the Board of Directors	March 3, 2020
/s/ Mark A. Johnson Mark A. Johnson	Director	March 3, 2020
/s/ Bryce Youngren Bryce Youngren	Director	March 3, 2020
/s/ Tony Weisman Tony Weisman	Director	March 3, 2020
/s/ John Klinck John Klinck	Director	March 3, 2020
/s/ Aimée Lapic Aimée Lapic	Director	March 3, 2020

DESCRIPTION OF CARDLYTICS, INC. COMMON STOCK

The following description of the common stock of Cardlytics, Inc., or the Company, is a summary and does not purport to be complete. This summary is qualified in its entirety by reference to the provisions of the Delaware General Corporation Law, or the DGCL, and the complete text of the Company's amended and restated certificate of incorporation, or the certificate of incorporation, and amended and restated bylaws, or the bylaws, which are incorporated by reference as Exhibits 3.1 and 3.2, respectively of the Company's Annual Report on Form 10-K to which this description is also an exhibit. The Company encourages you to read that law and those documents carefully.

Common Stock

Authorized Capital Stock

The certificate of incorporation authorizes the Company to issue up to 100,000,000 shares of common stock, $0.0001 par value per share, and 10,000,000 shares of preferred stock, $0.0001 par value per share, all of which shares of preferred stock were undesignated as of December 31, 2019. The Company's board of directors may establish the rights and preferences of the preferred stock from time to time.

Voting Rights

Each holder of common stock is entitled to one vote for each share on all matters submitted to a vote of the stockholders, including the election of directors. Under the certificate of incorporation and the bylaws, common stockholders do not have cumulative voting rights. Because of this, the holders of a majority of the shares of common stock entitled to vote in any election of directors are able to elect all of the directors standing for election, if they should so choose.

Dividends

Subject to preferences that may be applicable to any then-outstanding preferred stock, holders of common stock are entitled to receive ratably those dividends, if any, as may be declared from time to time by the Company's board of directors out of legally available funds.

Liquidation

In the event of the Company's liquidation, dissolution or winding up, holders of common stock will be entitled to share ratably in the net assets legally available for distribution to stockholders after the payment of all of debts and other liabilities and the satisfaction of any liquidation preference granted to the holders of any then-outstanding shares of preferred stock.

Rights and Preferences

Holders of common stock have no preemptive, conversion or subscription rights and there are no redemption or sinking fund provisions applicable to the common stock. The rights, preferences and privileges of the holders of common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of preferred stock that the Company may designate in the future.

Antitakeover Effects of Provisions of Charter Documents and Delaware Law

Charter Documents. The certificate of incorporation provides for the Company's board of directors to be divided into three classes with staggered three-year terms. Only one class of directors is elected at each annual meeting of stockholders, with the other classes continuing for the remainder of their respective three-year terms. Because the Company's stockholders do not have cumulative voting rights, stockholders holding a majority of the shares of common stock outstanding will be able to elect all of the Company's directors. The certificate of incorporation and the bylaws also provide that directors may be removed by the stockholders only for cause upon the vote of 66 2/3% or more of the Company's outstanding common stock. Furthermore, the authorized number of directors may be changed only by resolution of the Company's board of directors, and vacancies and newly created directorships on the Company's board of directors may, except as otherwise required by law or determined by the Company's board, only be filled by a majority vote of the directors then serving on the board, even though less than a quorum.

The certificate of incorporation and the bylaws also provide that all stockholder actions must be effected at a duly called meeting of stockholders. Stockholders do not have the right to act by written consent without a meeting. The bylaws also provide that only the Company's chairman of the board, chief executive officer or the Company's board of directors pursuant to a resolution adopted by a majority of the total number of authorized directors may call a special meeting of stockholders.

The bylaws also provide that stockholders seeking to present proposals before the Company's annual meeting of stockholders or to nominate candidates for election as directors at a meeting of stockholders must provide timely advance notice in writing, and, subject to applicable law, will specify requirements as to the form and content of a stockholder's notice.

The certificate of incorporation and the bylaws provide that the stockholders cannot amend many of the provisions described above except by a vote of 66 2/3% or more of the Company's outstanding capital stock.

The combination of these provisions may make it difficult for the Company's existing stockholders to replace the Company's board of directors as well as for another party to obtain control of the Company by replacing the Company's board of directors. Since the Company's board of directors has the power to retain and discharge the Company's officers, these provisions could also make it difficult for existing stockholders or another party to effect a change in management. In addition, the authorization of undesignated preferred stock makes it possible for the Company's board of directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to change the Company's control.

These provisions are intended to enhance the likelihood of continued stability in the composition of the Company's board of directors and its policies and to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to reduce the Company's vulnerability to hostile takeovers and to discourage certain tactics that may be used in proxy fights. However, such provisions could have the effect of discouraging others from making tender offers for the Company's shares and may have the effect of delaying changes in the Company's control or management. As a consequence, these provisions may also inhibit fluctuations in the market price of the Company's stock that could result from actual or rumored takeover attempts. The Company believe that the benefits of these provisions, including increased protection of its potential ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure the Company, outweigh the disadvantages of discouraging takeover proposals, because negotiation of takeover proposals could result in an improvement of their terms.

Delaware Takeover Statute. The Company is subject to Section 203 of the DGCL, which regulates acquisitions of some Delaware corporations. Section 203 generally prohibits a publicly held Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a period of three years following the date of the transaction in which the person became an interested stockholder, unless:

- the board of directors of the corporation approved the business combination or the other transaction in which the person became an interested stockholder prior to the date of the business combination or other transaction;
- upon consummation of the transaction that resulted in the person becoming an interested stockholder, the person owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding shares owned by persons who are directors and also officers of the corporation and shares issued under employee stock plans under which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- on or subsequent to the date the person became an interested stockholder, the board of directors of the corporation approved the business combination and the stockholders of the corporation authorized the business combination at an annual or special meeting of stockholders by the affirmative vote of at least 66-2/3% of the outstanding stock of the corporation not owned by the interested stockholder.

Section 203 of the DGCL defines a "business combination" to include any of the following:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, pledge or other disposition of 10% or more of the corporation's assets or outstanding stock involving the interested stockholder;
- subject to exceptions, any transaction that results in the issuance or transfer by the corporation of any of its stock to the interested stockholder;
- any transaction involving the corporation that has the effect of increasing the proportionate share of its stock owned by the interested stockholder; or
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

In general, Section 203 defines an "interested stockholder" as any person who, together with the person's affiliates and associates, owns, or within three years prior to the determination of interested stockholder status did own, 15% or more of a corporation's voting stock.

Section 203 of the DGCL could depress the Company's stock price and delay, discourage or prohibit transactions not approved in advance by the Company's board of directors, such as takeover attempts that might otherwise involve the payment to the Company's stockholders of a premium over the market price of the Company's common stock.

Transfer Agent and Registrar

The transfer agent and registrar for the Company's common stock is American Stock Transfer & Trust Company LLC. The transfer agent's address is 6201 15th Avenue, Brooklyn, NY 11219.

Listing on the Nasdaq Global Market

The Company's common stock is listed on the Nasdaq Global Market under the symbol "CDLX."

2019 Amendment to General Services Agreement

Supplier Name: Cardlytics, Inc.

Master Agreement Number: CW251208

Supplier Address:
675 Ponce de Leon NE
Suite 6000
Atlanta, GA 30308

Amendment Number: CW1417829

Supplier Telephone: 888.798.5802

Effective Date: Upon Execution

Certain information has been excluded from this agreement (indicated by “[***]”) because such information (i) is not material and (ii) would be competitively harmful if publicly disclosed.

Exhibit 10.21

This 2019 Amendment serves to amend the General Services Agreement executed by and between Bank of America, N.A. (“Bank of America”) and Cardlytics, Inc. (“Supplier”) dated November 5, 2010, as previously amended by CW967765 on August 16, 2017 and others (the “Agreement”). No terms of the Agreement shall be altered or negated as a result of this Amendment except as stated herein. Capitalized terms not specifically defined herein shall have the meaning set forth in the Agreement.

WHEREAS, Bank of America and Supplier entered into the Agreement in order to set forth the terms and conditions pursuant to which Supplier provides certain Services to Bank of America; and

WHEREAS, the Parties desire to amend the Agreement;

NOW THEREFORE, in consideration of the promises and accords made herein, and the exchange of such good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Bank of America and Supplier agree as follows:

1. Notwithstanding anything to the contrary in the Agreement, including without limitation Schedule B of the Agreement, in [***], the Bank of America Revenue Share Percentage and the Supplier Revenue Share Percentage for Supplier Secured Merchants as of the National Launch Date shall [***]. This Revenue Share Percentage is [***], and will [***].

2. Notwithstanding anything to the contrary in the Agreement, including without limitation Schedule B of the Agreement, and subject to Section 6 of this Amendment, on or [***], Supplier shall make a payment to Bank of America in the amount of [***] by depositing the funds into an account designated by Bank of America. These funds will be used by Bank of America [***].

3. Notwithstanding anything to the contrary in the Agreement, including without limitation Schedule B of the Agreement, upon the conclusion of [***] (as dictated by Section 1 of this Amendment). In the event the [***], Supplier shall [***], by either [***]. *By way of example, in the event that Bank of America* [***], *Supplier shall* [***]. *By way of another example, in the event that Bank of America* [***].

4. The above-stated Sections of this Amendment are premised on the assumption that the Agreement will remain in effect throughout the calendar year 2020. In the event that the Agreement does not remain in effect throughout the calendar year 2020, Supplier and Bank of America shall [***] provided, however, in the event that Supplier [***] pursuant to Section 6 of this Amendment, [***].

5. Notwithstanding anything to the contrary in the Agreement, (a) beginning on[***], the Revenue Share Payments shall be paid to Bank of America [***], and (b) beginning [***], the User Incentives shall be paid to Bank of America [***].

6. In the event that Bank of America is not able to [***], Cardlytics shall have no obligation[***], and Bank of America shall have no rights with respect to same, until [***]. In the event that Bank of America is not able to [***], Cardlytics shall have no obligation to [***], and Bank of America shall have no rights with respect to same, until [***]. In the event that Bank of America does not [***], Cardlytics shall have no obligation to [***], and Bank of America shall have no rights with respect to same, until [***] (or in the event that [***] does not occur before the termination or expiration of the Agreement, Cardlytics shall have no such obligation).

CARDLYTICS, INC.		**BANK OF AMERICA N.A.**	
("Supplier")		("Bank of America")	
/s/ David T. Evans	**Date:** December 20, 2019	/s/ James E. Englehart	**Date:** December 20, 2019
David T. Evans		James E. Englhart	
Chief Financial Officer and Head of Corporate Development		VP, Sr. Procurement Specialist	

Certain information has been excluded from this agreement (indicated by “[***]”) because such information (i) is not material and (ii) would be competitively harmful if publicly disclosed.

First AMENDMENT TO Schedule #1

This First Amendment ("Amendment") to that certain Schedule #1 dated May 4, 2018 ("Schedule"), is made effective on October 23, 2018 (the "Amendment Effective Date") between JPMORGAN CHASE BANK, NATIONAL ASSOCIATION ("JPMC") and CARDLYTICS, INC. ("Supplier").

NOW, THEREFORE, in consideration of the good and valuable consideration, mutual promises, covenants, representations and warranties, the receipt and sufficiency of which are hereby acknowledged, and intending to be legally bound, the parties agree as follows:

1. [***]**.** As of the Amendment Effective Date, the following text shall be added as Section 3 (b)(xii) of the Schedule:

"(xii) To the extent the [***], or in connection with efforts by Supplier to [***], to create [***] to provide to such [***] or [***] where the [***]. For the avoidance of doubt, Supplier's [***] will not [***]."

2. [***]**.** As of the Amendment Effective Date, the following text shall be added as Section 3 (b)(xiii) of the Schedule:

"(xiii) To demonstrate the [***], including the [***], where the [***] and the like included in such [***]. For the avoidance of doubt, Supplier's [***] will not [***]."

3. [***]**.** As of the Amendment Effective Date, the following text shall be added as Section 3 (b)(xiv) of the Schedule:

"(xiv) To create [***] of Supplier in order to create [***], with a focus on [***], where the [***] and the like included in such [***] have [***]. For the avoidance of doubt, Supplier's [***] will not [***]."

4. [***]**Prohibitions.** As of the Amendment Effective Date, the following text shall be added as Section 3 (q) of the Schedule:

"**(q)** [***] **Prohibitions**. Notwithstanding anything to the contrary, in no event may [***] be used in [***] without JPMC's written consent other than those permitted by [***]. Such consent must include a specific reference to [***]. Further, in no event may [***] be used to [***]."

5. **Participating Advertiser Agreements.** As of the Amendment Effective Date, the following text shall be added as Section 3 (r) of the Schedule:

"**(r)** [***] **Agreements**. "Supplier will obtain an [***]."

6. [***] **Program.** As of the Amendment Effective Date, the following text shall be added as Section 3 (r) of the Schedule:

"**(s)** [***] **Program**. To the extent JPMC participates in any [***] program where [***], any [***] provided by JPMC [***] will be [***] and Supplier will not [***] in violation of this Schedule or the Agreement."

7. **Quality Credits (For Select Accounts).** As of the Amendment Effective Date, Section E of Attachment 4 of the Schedule shall be deleted in its entirety and replaced with the following:

"**E. Quality Credits (for Select accounts).**

1. **Generally.**

Certain information has been excluded from this agreement (indicated by "[***]") because such information (i) is not material and (ii) would be competitively harmful if publicly disclosed.

a. Supplier's failure to meet certain Offer requirements outlined below will result in "Quality Credits" equal to the Vertical Diversity Credit (if any) plus the [***] Credit (if any) plus the [***] Credit (if any) plus the [***] Credit (if any). Supplier may elect to fund Offers to satisfy the requirements of any Quality Credits; provided that the amount of funding for such Offer(s) must equal at least [***] percent ([***]%) of JPMC Billings.

2. **Category Diversity**.

a. If in any calendar quarter Supplier fails to include [***] Offer providing Customers Reasonable Value from merchants representing [***] ([***]%) of the Qualifying Verticals, JPMC will receive a "Vertical Diversity Credit" equal to [***] ([***]%) of JPMC Billings for the next calendar quarter.

b. The "Merchant Category Chart" means the list of at least [***] merchants attached as Annex C which includes an indication of the merchant's Vertical. The Merchant Category Chart may be amended by JPMC once [***] upon [***], provided that no more than [***] ([***]%) of the merchants are changed in connection with each amendment; provided, however, that if any merchant on Merchant Category Chart files for Bankruptcy, JPMC will change that merchant pursuant to this Section without having such change count against the above-stated merchant or time limitations.

c. A merchant's "Vertical" means the advertising cohorts designated by JPMC on the Merchant Category Chart in JPMC's sole discretion after consultation with Supplier.

d. A "Qualifying Vertical" means at Launch the following Verticals: (i) [***]; (ii) [***]; (iii) [***]; (iv) [***]; and (v) [***]. The foregoing list may be amended by JPMC once [***] upon [***], provided that no more than one of the Verticals is changed during each amendment.

3. [***].

a. If in any calendar quarter Supplier fails to include [***] Offer providing Customers [***] from [***] different [***] Merchants, targeted to Customers based standard Supplier criteria, JPMC will receive a "[***] Credit" equal to [***] ([***]%) of JPMC Billings for the next calendar quarter.

b. In each calendar quarter, Supplier will work with a JPMC business team supporting a product type or series of payment devices designated by JPMC in its sole discretion to provide Offers targeted solely due to a Customer possessing one of a specified product types or series of payment devices. If in any calendar quarter Supplier fails to include at least [***] so targeted providing Customers [***] from [***] of the [***] Merchants, JPMC will receive a [***] Credit equal to [***] ([***]%) of JPMC Billings for the next calendar quarter. The designated JPMC business team may agree in writing that Offers from merchants other than [***] Merchants may satisfy the requirements of this Section. The forgoing [***] Credit will not be applicable for the first [***] after Launch.

c. "[***] Merchants" means those merchant listed on the chart attached as Annex D, as such chart may be amended by JPMC once [***] upon [***] notice, provided that no more than [***] percent ([***]%) of the merchants are changed during each amendment; provided, however, that if any merchant on Annex D files for Bankruptcy, JPMC will change that merchant pursuant to this Section without having such change count against the above-stated merchant or time limitations . The Parties further agree that under no circumstances will there be less than [***] merchants on Annex D.

d. "[***]" means: [***]

4. [***].

a. If in any calendar quarter Supplier fails to include [***] Offer from [***] Merchants providing Customers [***] from [***] different [***] Merchants, JPMC will receive a "[***] Credit" equal to [***] ([***]%) of JPMC Billings for the next calendar quarter. Notwithstanding the foregoing, JPMC shall not be entitled to a [***] Credit until [***] after JPMC includes [***] data in the Daily Feed.

b. "[***] Merchants" means those merchants listed on the chart attached as Annex E, as such chart may be amended by JPMC once [***] upon [***] notice, provided that no more than [***] of the merchants are changed during each amendment. The Parties further agree that under no circumstances will there be less than [***] merchants on Annex E.

c. "[***]Value" means: [***]

d. JPMC may designate [***] marketing campaigns for the next calendar year (each a "[***] Campaign") and the Parties will agree on a list of at least [***] merchants which would fit the goals of each [***] Campaign ("[***] Merchants"). [***] of the [***] Merchants for any applicable [***] Campaign will have previously provided Offers. No later than five (5) days after the execution of this Schedule, the Parties will commence discussions about upcoming [***] Campaigns.

Certain information has been excluded from this agreement (indicated by "[***]") because such information (i) is not material and (ii) would be competitively harmful if publicly disclosed.

e. If during any [***] Campaign, Supplier fails to include [***] Offer providing Customers Reasonable Value from [***] different [***] Merchants, JPMC will receive a "[***] Credit" equal to [***] ([***]%) of JPMC Billings for [***].

f. JPMC shall not be entitled to a [***] Credit, unless it has designated the applicable [***] Campaign and [***] Merchants at least [***] in advance.

In the event that a merchant does not provider Offers in the applicable time period because JPMC failed to approve the Offer pursuant to Section 2(e)(ii) which complied with JPMC's disclosure and template requirements, the Offer shall be considered to have been provided during the applicable time period for purposes of the above-stated calculations."

8. **Defined Terms**. All capitalized terms used but not otherwise defined herein shall have the meanings given to them in the Schedule.

9. **Ratification**. Except to the extent expressly amended by this Amendment, all terms, provisions and conditions of the Schedule shall continue in full force and effect and the Schedule shall remain enforceable and binding in accordance with its terms, and the Parties hereby ratify and confirm the terms of the Schedule as modified by this Amendment.

10. **Counterparts**. This Amendment may be executed by the parties in separate counterparts, each of which shall be deemed to be an original, and all such counterparts shall together constitute but one and the same instrument. Delivery of an executed counterpart of a signature page to this Amendment by facsimile or electronic mail (in .pdf or .tif format) shall be effective as delivery of a manually executed counterpart of this Amendment.

IN WITNESS WHEREOF, the undersigned have executed this Amendment effective as of the Amendment Effective Date.

CARDLYTICS, INC.		**JPMORGAN CHASE BANK, NATIONAL ASSOCIATION**	
/s/ David T. Evans	**Date:** October 23, 2018	/s/ Michael Nagle	**Date: October 30, 2018**
David T. Evans		Michael Nagle	
Chief Financial Officer and Head of Corporate Development		Managing Director, Head of Customer Marketing, Experience & Retention	

Certain information has been excluded from this agreement (indicated by "[***]") because such information (i) is not material and (ii) would be competitively harmful if publicly disclosed.

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement Nos. 333-222965 and 333-231640 on Form S-8, and Registration Statement No. 333-232861 on Form S-3 of our report dated March 3, 2020, relating to the consolidated financial statements of Cardlytics, Inc. and subsidiaries appearing in this Annual Report on Form 10-K of Cardlytics, Inc. for the year ended December 31, 2019.

/s/ DELOITTE & TOUCHE LLP
Atlanta, Georgia
March 3, 2020

Exhibit 31.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Scott D. Grimes, certify that:

1. I have reviewed this Annual Report on Form 10-K for the year ended December 31, 2019 of Cardlytics, Inc. (the “registrant”);
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant’s other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f) for the registrant and have:
    a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
    c. Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
    d. Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter (the registrant’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and
5. The registrant’s other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of the registrant’s board of directors (or persons performing the equivalent functions):
    a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and
    b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

Date: March 3, 2020

By: /s/ Scott D. Grimes
Scott D. Grimes
Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, David T. Evans, certify that:

1. I have reviewed this Annual Report on Form 10-K for the year ended December 31, 2019 of Cardlytics, Inc. (the “registrant”);

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant’s other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f) for the registrant and have:

   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c. Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d. Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter (the registrant’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and

5. The registrant’s other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of the registrant’s board of directors (or persons performing the equivalent functions):

   a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and

   b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

Date: March 3, 2020

By: /s/ David T. Evans

David T. Evans
Chief Financial Officer
(Principal Financial and Accounting Officer)

Exhibit 32.1

CERTIFICATIONS OF
PRINCIPAL EXECUTIVE OFFICER AND PRINCIPAL FINANCIAL OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

Pursuant to the requirement set forth in Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended, (the "Exchange Act") and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. §1350), Scott D. Grimes, Chief Executive Officer of Cardlytics, Inc. (the "Company"), and David T. Evans, Chief Financial Officer of the Company, each hereby certifies that, to the best of his knowledge:

1. The Company's Annual Report on Form 10-K for the period ended December 31, 2019 (the "Report"), fully complies with the requirements of Section 13(a) or Section 15(d) of the Exchange Act; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date:	March 3, 2020	By:	/s/ Scott D. Grimes
			Scott D. Grimes
			Chief Executive Officer *(Principal Executive Officer)*
Date:	March 3, 2020	By:	/s/ David T. Evans
			David T. Evans
			Chief Financial Officer *(Principal Financial and Accounting Officer)*

This certification accompanies the Report to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933, as amended, or the Exchange Act, whether made before or after the date of this Report, irrespective of any general incorporation language contained in such filing.

A signed original of this written statement required by Section 906 of the Sarbanes-Oxley Act of 2002 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.