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JILL AVERY

RAYAN NAHAS

Camera IQ and the Metaverse: Building Augmented Reality Brand Experiences

"What's so powerful about using AR and the camera as a medium? Cameras are a point and shoot device for capturing memories. Your brand is now able to play in a place where people are capturing and sharing moments of their lives."

— Allison (Wood) Ferenci, founder of Camera IQ

Allison (Wood) Ferenci, cofounder and CEO of Camera IQ, slacked her cofounder and COO Sonia Tsao (HBS '14) the latest augmented reality experience (ARE) created and published on the Camera IQ platform. The *Milk Makeup x I am a Voter* ARE featured a playful cat- eye makeup look from Milk with a graphical crown that read "I am a Voter" that could be layered on a photograph of a person's face and posted on their Instagram story feed. With election season just around the corner, the two brands had teamed up to advocate for voting through a multichannel digital marketing campaign. Calling her husband over, Ferenci created a quick Instagram story using the effect on his face, tagged @Milkmakeup and @Iamavoter, and posted it to her account.

In September 2020, Ferenci and Tsao were celebrating the close of a successful Series A venture capital fundraising round. Camera IQ, a camera marketing software company that empowered brands to create and launch augmented reality experiences (AREs) in the metaverse across social platforms, had just raised an additional $5 million to fund further product development and expand its marketing and sales efforts. In the four years since the company's founding, Camera IQ had worked to "democratize the camera," Ferenci's stated mission for breaking down the significant technological barriers that prevented companies from easily harnessing the power of AR at scale. She had spent much of the last four years educating and evangelizing about spatial computing, the metaverse, and the power of the camera as the next wave in consumers' and brands' digital evolution. Now, she and Tsao realized that their business stood at a critical juncture. Explained Ferenci, "Facebook, Snap, and other major tech platforms have taken a major step forward in developing the AR ecosystem. Just as we saw with social, this is the moment where AR goes from nice-to-have content to a key component of any digital and commerce strategy." It was time to accelerate the company's growth.

Several issues were on the table for discussion. First, Ferenci and Tsao would need to decide how to expand their customer base. While most of their early users tended to be graphic designers and social

Senior Lecturer Jill Avery and Rayan Nahas (MBA 2021) prepared this case. It was reviewed and approved before publication by a company designate. Funding for the development of this case was provided by Harvard Business School and not by the company. Rayan Nahas served as a MBA summer intern at Camera IQ during the preparation of this case. He later joined the company as a full time employee. Certain details have been disguised. HBS cases are developed solely as the basis for class discussion. Cases are not intended to serve as endorsements, sources of primary data, or illustrations of effective or ineffective management.

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media managers concentrated in a few key verticals, including gaming, entertainment, and beauty, the pair wondered if and how they could further penetrate the market. Second, they had to decide how to direct their engineering resources to refine their platform to meet the needs of an expanding and diversifying customer base. Some in the company were advocating for the development of a much cheaper product tier with capped features to capture the mass market, while others were arguing that the company should focus on refining a more intricate enterprise solution. Still others were excited about the possibility of launching a two-sided marketplace for AR content. Third, as Camera IQ refined its customer value proposition, Ferenci and Tsao struggled with understanding how to differentiate AREs from other types of digital content and how to move beyond traditional notions of advertising toward the achievement of a richer, more immersive and engaging branded experience.

Company History

Both Camera IQ founders shared an upbringing where they grew up observing their parents and grandparents running their own businesses. Reminisced Ferenci, "We were raised with this idea that we could start a company and always understood the responsibility of being an entrepreneur. We've always felt like we could have a place at the table, which we know is unique for many female founders." Added Tsao, "Our risk appetite is definitely high compared to some of our peers. We got an upfront view of what it means to have an idea and the conviction needed to realize it."[1]

However, their paths to Camera IQ could not have been more different. After graduating with an undergraduate degree in sociology, Ferenci began a Master of Fine Arts in interior design and digital interactive art at Pratt Institute, where she spread her design wings, learned how to code, and became fascinated by how technology could bridge online and offline worlds. Tsao's undergraduate anthropology degree propelled her to spend time in developing markets in Asia where much "camera-first" behavior was emerging. After her MBA at Harvard Business School, she followed with a position as head of brand strategy at Google Ventures-backed mobile commerce app Spring.

Seeing the growing ubiquity of smartphones and the rise of new social media platforms such as Snapchat that placed the device's camera at the center of the action, in 2016, Ferenci and Tsao founded Camera IQ in Los Angeles to enable brands to easily tap into the power of AR for camera marketing. Seed funding of $4.3 million arrived in 2017. Over the years since then, their team had grown to 25 engineers, designers, and marketers. They collectively built the first no-code Camera Marketing platform, designed as an end-to-end solution to help brands create, launch, and track AREs at scale, which was released in 2019. Ferenci shared the company's mission:

> Camera IQ is powering the next generation of consumer interactions by enabling brands to tap into the power of Augmented Reality. We help marketers drive business objectives through camera marketing and commerce. Our platform empowers brands to easily create and deploy scalable AR campaigns and reach audiences everywhere including Facebook, Instagram, Snapchat, TikTok, Twitch, Zoom, and more. We are AR Simplified…We are building a future where the camera is the new start menu, where consumers and brands can interact seamlessly with each other and co-create brand new worlds for all to explore.

Camera IQ had just reached the noteworthy milestone of over 35 B2B customers with 300 users publishing 300+ AR experiences to social media per quarter, and by mid-2020 had surpassed $1 million in annual recurring revenue. Ferenci could feel the momentum growing, stating, "The camera is becoming the primary means for input and interaction with the digital world. The camera will supersede the smartphone in the era of spatial computing, and lenses will replace apps." The recent

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infusion of cash from the Series A brought the company's total funding to $14 million. Lead investor and board member, Jacob Mullins of Shasta Ventures, was excited by what he was seeing, "Camera IQ unlocks a new, direct relationship with an audience, enabling a deeper level of intimacy for some of the world's largest brands and companies as they reach users transitioning to an augmented world."[2]

Camera IQ's revenue and number of customers doubled between Q3 2019 and Q3 2020 and more than 30% of customers increased their business with the company within their first year, as a result of upselling efforts. The company was hoping to reach over 80 B2B customers by the end of 2021.

Spatial Computing and Augmented Reality in the Metaverse

Unlike virtual reality (VR), in which a person using specialized equipment (e.g. Facebook's Oculus headset), could move through and interact within a digital three-dimensional (3D) simulated environment, AR did not require the use of expensive or specialized equipment other than a smartphone or device with a built-in camera. AR superimposed a 2D or 3D digital image onto a user's view of the real world, overlaying the digital onto the physical as seen through the camera's lens. For example, users looking at themselves on their device's camera could superimpose digital sunglasses, masks, or ears onto their faces that dynamically adjusted as the user moved their head and changed their facial expressions, making it appear as if the digital effects were connected to the physical.

Ferenci saw the camera embedded in smartphones, tablets, laptops and desktops, and other devices as the impetus for a new technological era. She explained,

> Today, nearly 2.6 billion people carry smartphones. All sorts of incredible things can now happen while we are out and about with a tiny supercomputer in our pocket. But after years of unrelenting progress, the mobile computing era is coming to an end. The paradigm that will replace it is coming into focus, and it has a name: spatial computing. In spatial computing, the physical world around us is not only content, but also the interface and the distribution channel as well. How? The camera inside your smart phone will bring the internet and the real world into a single time and space.
>
> Once upon a time, the mobile camera was only used to capture content. Today, we use cameras to enhance the experience of the world around us. Snapchat, Pokémon Go, Instagram Stories, and TikTok introduce behaviors that allow the camera to become something much more than a content creation and consumption device. By giving us tools to augment our selfies, social platforms taught us that the camera could be interactive. Now we're turning the camera out on the world and learning that the world is in fact our canvas. The camera is no longer a passive tool, but the new start menu. It is the next great consumption experience, the next great transaction experience, and the biggest technology opportunity in a decade.

Social media platforms, such as Snapchat, Facebook, Instagram, and TikTok, had invested heavily in enabling AREs to populate their users' feeds, through the development of lenses, effects, filters, virtual try-on experiences, games, and digital avatars (i.e., Bitmojis). At the same time, smartphone developers had enhanced the capabilities of their devices' cameras, allowing AREs to appear more realistic. Consumers had responded enthusiastically, particularly Gen Z, for whom the camera and its selfies had replaced text-based media like email or text as their primary way to communicate. In 2019, SuperData reported that 46% of AR users were between the ages of 13 and 24, a media sweet spot for advertisers, and was nearly evenly split between men (53%) and women (47%).[3]

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Social media platforms were the most direct pathway to AREs; 78% of AR users in the U.S. accessed AREs via Snapchat Lenses, Facebook Effects, Instagram Filters, TikTok Effects, Pinterest Try-On, and other social AR applications.[4] Usage was quickly spreading beyond Gen Z, as eMarketer explained, "As AR becomes more widely available in social media, it's helping consumers become more familiar with the technology. Because social AR doesn't require users to download any new software, or wear glasses or other hardware, it's more easily accessed and experienced. And playing with AR on a familiar device (the mobile phone) and in a familiar setting (social media) will help it gain more awareness and usage."[5] By 2020, 44 million U.S. users (21% of social network users and 15% of internet users) were actively engaging with AREs on social media platforms[6] (see **Exhibit 1**).

The 2020 COVID-19 pandemic, which kept people stuck at home, fueled substantial increases in AR usage as well as significant growth in both mobile e-commerce and purchasing directly from social media platforms. Camera IQ noted that time spent in AREs had increased by 85% in the past year. During Q2 2020, in the midst of the pandemic, Snap Inc. reported that three out of four of their users, representing 180 million people globally, engaged with AR each day on its platform, noting that the number of people playing with Lenses had grown 37% in the past year.[7] AREs were proving to be highly engaging and very shareable, and many were achieving viral status.

The Emergence of Camera Marketing and Commerce

By 2020, marketers were growing increasingly concerned about the return-on-investment of social media marketing, as both organic and paid posts were delivering diminishing returns as consumers' feeds were filling up with sponsored content, which they were quickly learning to ignore, at the same time that the costs of the ads were increasing as more companies poured a greater percentage of their media budgets into digital marketing. Ferenci noted, "Old advertising (including social media marketing) drives for impressions only and offers no delight and little utility in return. This type of advertising delivers subpar results. Five percent is considered a fabulous conversion rate. In what other business on earth can you fail to engage 95 percent of your audience and be considered a big success?"

Following consumers' interest in and robust creation of their own social AREs, marketers began experimenting with building AR-fueled brand experiences, while the social media platforms rolled out new AR advertising formats and tools to capture this new demand and to provide consumers with frictionless access to a brand's AREs without leaving their favorite social media platform. Ferenci was excited by the possibilities, claiming:

> Imagine a place where advertisements are no longer so much disintermediation, but rather authentic, memorable brand experiences. AR ads will fare well because they are non-interruptive. They are akin to product placement where they are a part of and live inside the content, contributing to the overall quality and stickiness of the experience itself. They are profoundly under the consumer's control. They're curiosities. They're invitations, not intrusions. They're artful, fun tools that consumers use to play and connect with brands they love.
>
> The advertising message delivered by an ARE isn't a message at all, but rather a way of seeing and being in the world, from *the brand's point of view*. In this brand new world of AR, I am immersed and present, so impressions cease to matter. Instead, the goal becomes to encourage me to *focus* in on a particular area, and then decide to *participate*.
>
> Camera marketing unlocks a holy grail of *Presence*, *Focus*, and *Participation*. In extended reality, these concepts replace the metrics formerly known as bounce rate, time-on-site,

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> and clicks. They also challenge our assumption about the values we've traditionally placed on these metrics. *Presence* means I am in a world. I am spending time there. Presence may be a part of an overall funnel, but presence can also be an endpoint. Spending time with a brand immersively is an important outcome of the experience we build. *Focus* means that in addition to being in a world, I have chosen to pay attention to a particular thing. Focus is concentrated presence, in shorter spurts. *Participation* means that I have opted into a micro-experience or episode within a world. I've been invited to join the party and I've accepted. Participation is the closest thing we have in extended reality to taking an 'action' or triggering an 'event'. Participation is a choice to go further down a rabbit hole – to continue exploring. The best opportunities to participate don't just extend reality, they extend an experience. They extend a brand. They extend a relationship. The best opportunities to participate further the narrative. They deepen my relationship with the world, and the brand that architected that world for my enjoyment.

Early results suggested that AREs were outperforming other social media advertising formats. An industry study reported that AREs were achieving engagement rates ten times higher than traditional social media posts, driving 50% reductions in cost per engagement. More than 70% of consumers reported they were sharing AREs on social media, suggesting high levels of engagement and virality.[8]

While AREs were gaining in popularity with consumers, a *Bizrate Insights* consumer survey conducted in June 2020 reported that only 9% of U.S. adults had used AR while shopping and 45% had either never used it nor were interested in trying it in the future.[9] This spurred the social media platforms into action and most had launched AR shopping capabilities by 2020. Change was coming, as an industry report detailed, "With a few clicks, consumers can…visualize clothing purchases, test out new makeup looks, rearrange furniture in their apartments, or play a game of catching virtual objects around their neighborhood."[10] By the summer of 2020, Instagram had launched its redesigned shop feature and virtual try-on using AR was in beta testing. Snap continued to integrate with Shopify and launched Brand Profiles, providing brands with permanent real estate on the Snapchat platform that brands could populate with organic AREs, native commerce storefronts, and other content. Pinterest, Google, Shopify, Amazon, and other key commerce platforms also doubled down on the camera and AR for product visualization.

In 2019, marketers spent more than $500 million on paid ARE ads worldwide, nearly all on Snapchat; ARE ad spending was expected to increase to $1.4 billion in 2020 reflecting growth on Snapchat and expansion to other social media platforms (see **Exhibit 2**).[11] Still, *Warc* research recounted that just 17% of marketers labeled VR and AR as "very important" emerging technologies in 2019 while 35% of respondents thought they were "not important".[12] HubSpot reported that 11% of marketers were using social AR as of December 2019.[13] However, the future looked rosy as AR was projected to influence and/or aid $36 billion in consumer spending by 2024.[14]

The Camera IQ Platform

By 2020, *eMarketer* was still describing marketers' interest in AR as "muted".[15] Specialized creative agencies were helping brands create AREs, but they charged between $5,000 to $50,000 per experience, prohibitively expensive for many brands, and the delivery of a filter could take weeks. Producing them internally was difficult and required specialized training in AR software. AREs were proving to be tough to create given a dearth of existing 3D brand assets and the lack of creative format standards across social media platforms. Most designers were used to working with 2D design assets and lacked the skills for creating the more complicated 3D designs. AR user Erica Patrick, VP and director of paid

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social media at Mediahub Global claimed, "It's definitely a specialty that not everyone has, so it can be daunting for more traditional advertisers."[16] Shamsul Chowdhury, VP of paid social at Jellyfish, concurred, "We've got someone on our team that knows how to build AR Lenses through Snapchat. This person's able to hammer it out in a couple of hours. On Facebook, it's a few days of work."[17]

AREs were also difficult to scale, given expensive production costs and long lead times. Sixty-four percent of the brands that the Camera IQ business development team spoke with cited technical and financial challenges associated with producing AREs. *eMarketer* declared, "Even with help from the social platforms, developing AREs involves specialized skills...Until more standards emerge, be prepared to adjust and modify your creations. In addition to having different file-size limitations, the social platforms' technologies for mapping or rotating AR assets may not match."[18] *eMarketer* noted the slowness of the content creation process, "Facebook's process to create AR ads isn't as easy as it could be…On Facebook, a marketer must first develop the AR experience, then upload it to the Spark AR Hub, and from there, create a video ad featuring the AR experience in Facebook's Ad Manager."[19]

Additionally, marketers were worried about the impact of AREs. Explained an industry insider, "Advertisers may have historically thought about AR as the shiny new object in the media plan – the tactic that is attention-grabbing or innovative enough to win an award, but not necessarily a business driver. But now more than ever, tactics and media dollars on social are being scrutinized. Brands are thinking about how AR can provide more utility."[20] *eMarketer* agreed, claiming, "There will always be a fun and entertaining aspect to AR, but experiences that are strictly playful with no bigger marketing payoff won't be prioritized in marketers' plans. Instead incorporating features that lead to harder metrics and business results will help companies understand whether AR advertising is truly beneficial to the bottom line."[21] Brands had to adjust to new metrics, such as *play rate* (the percentage of people who interacted with an ARE) and *share rate*, (the percentage of people who sent a photo or video of themselves using an ARE) rather than the more passive *views* or *likes* they were accustomed to using to evaluate social media performance.

Each of the social media platforms was working to make adding AR to social media posts easier. For example, Snapchat launched Lens Studio, which allowed anyone to create AR lenses, and Scan, an AR kit for developers, which used object recognition to facilitate the creation of utility features. Apple's Reality Composer and Adobe's Aero were user-friendly tools that designers who did not code could use to build AREs. However, Tsao noted that these tools were still challenging to use, "Most brands and designers still find it too overwhelming to create content easily and quickly. And, because each platform is coming out with their own creation tools and proprietary formats, if you want to do something across all of the platforms, it's super-challenging."

"Democratizing the camera" was the guiding mantra for the product development of the Camera IQ software platform. Ferenci explained, "We set out to build a software platform and workflow that allows everyone (and anyone) to create and publish AR experiences that scale – to democratize the camera – to tear down the major entry barriers that currently exist and to allow non-technical users to create an AR experience using the tools they already know how to use." The goal was to create a tool uniquely positioned to act as mission control for a company's AR efforts, that was so easy to use and accessible that non-technical users could create an ARE in a few minutes, easily and seamlessly deploy it across social media platforms, and instantly begin measuring its impact on consumer behavior and contributions to business results. Ferenci dubbed Camera IQ "AR Simplified" and declared that it offered the ability for users to "create once, deploy everywhere with no expensive agency costs, no long production timelines, and no 3D wizardry required". See **Exhibits 3 and 4** for a comparison of existing processes and Camera IQ. The platform included user-friendly tools to create, manage, and measure both organic AR content and paid AR advertising:

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- **AR Content Creation**: Designers could easily create branded AR experiences with intuitive tools and flexible, proven templates. AREs could be frequently updated and iterated with a high rate of customization to capitalize on pop culture moments and internet memes.

- **AR Content Management**: Designers could instantly publish across social platforms using the company's proprietary translation tool, .arx, a CIQ AR interchange format that automatically translated assets to conform to each social media platform's required specifications.

- **AR Content Measurement**: Managers could evaluate an ARE's performance across social media channels using real-time data to measure return-on-investment and to fuel predictive analytics to refine future creations. Camera IQ encouraged its clients to create organic AREs first to provide themselves with the ability to test creative and to identify audiences likely to respond to it. This information was then used to select audiences for paid AR advertising, which could retarget users that had already engaged with the brand and its content (i.e., *custom audiences*), or serve the ARE to *lookalike audiences*, new audiences with whom the brand had not yet interacted but who resembled the brand's core audience on key attributes, such as demographics, geographic location, social connections, interests, or online behaviors.

Once the platform was launched, Tsao's business development team started their outreach to prospective customers. Their sales pitch promised that the Camera IQ platform could help brands quickly and easily build AREs that would:

1. **Build brand awareness and affinity** by immersing consumers in branded AREs, such that they become physically and digitally part of the brand's story.

2. **Increase brand consideration** by allowing consumers to interact with the brand's digital assets and try them on in their own environments.

3. **Drive action and conversion** by effectively and efficiently moving customers through their purchasing journeys to purchase.

Camera IQ's earliest customers pointed to powerful results. See examples of Camera IQ-supported campaigns in **Exhibit 5**. Effused customer Kyle Bunch, managing director of R/GA's social practice, "Partnering with Camera IQ has created new and exciting opportunities for major brands to meet their customer where they are – in the camera. The cultural moment for AR and VR is now, and it's important that brands build their long-term strategy to capitalize on the power of this new medium."[22] The metrics were looking good:

- Camera IQ's customers were exponentially expanding their reach on social media through AREs, with some reaching up to 34 times their number of followers with a single ARE. In the second quarter of 2020, more than 20% of AREs published organically on Camera IQ reached over 1 million views,

- AREs published on Camera IQ generated a 60% play rate and a 3% share rate on average, compared to an average Instagram post which typically generated a 1.6% engagement rate,

- Users spent significantly more time on Camera IQ's AREs (10 seconds) than traditional ads that appeared in their feeds (1.7 seconds),

- The inclusion of an ARE in a social media ad increased its effectiveness. 70% of Camera IQ's AREs demonstrated high memory recall. Purchase intent increased by a multiple of eleven for AREs versus traditional social media ads,

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- Camera IQ's customers were experiencing significant increases in performance from their AREs versus paid AR ad performance, such as 2x click through rates (CTR) at 50% of the cost-per-click (CPC) level. Some even saw e-commerce sales increase by 10x during the ARE's flight.

Tsao summarized the results the company was seeing from its customers,

> AREs created and published through Camera IQ's platform are helping build more engaged and qualified audiences, driving campaign performance. Our customers are seeing quality engagement from leaned-in interaction with the brands, which is driving greater advocacy, affinity, and conversion. Our customers are achieving amplified reach alongside advanced targeting enabling effective engagement of desired audiences. And, our customers are seeing impact across the purchase funnel – from awareness (i.e., from gamified product launches and branded experiences), to consideration (i.e., from virtual product try-on), to conversion (i.e., from in-app purchase), to advocacy (i.e., from experiences designed for existing fans). In what other medium is a consumer able to discover, play, share, and purchase all within a single format?

Customer Portfolio Strategy[a]

Now that the product was ready, it was time for Tsao and her team to focus on their marketing and sales processes and allocate resources for customer acquisition. First, they would need to decide which types of customers upon which to focus their business development efforts and how to craft a compelling customer value proposition. During its launch phase, the company had sold to any customer who was interested in buying its service, regardless of size or industry vertical. This helped achieve the critical mass the fledgling venture needed to survive. Camera IQ's initial batch of customers included some of the world's largest companies (see **Exhibit 6**) but also smaller direct-to-consumer (DTC) brands.

However, at this stage in its development, Tsao knew it was important to zero in on a more precise customer target so that all product development, operations, and marketing and sales resources could be deployed efficiently. As a start-up, the company's cost of capital was high[b] as fundraises generally gave the company about 18 months of runway. Therefore, any investment was analyzed critically as each could determine the success or failure of future financing. As she looked across the portfolio, she debated how to invest resources across industry verticals and across three very different types of customers the company was currently serving: 1.) creatives and designers, 2.) social media managers, and 3.) vice presidents of marketing and senior marketing leaders. She also wondered whether the company should further develop its business with small and medium sized businesses (SMBs), with whom it was having strong early traction with minimal devoted sales and marketing resources, or focus entirely on larger, enterprise customers, who took longer to sell but had the potential to deliver larger contracts.

Camera IQ had built its platform so that it was industry vertical-agnostic and could effectively serve designers and social media managers at startups and in SMBs and the more complex and complicated needs of CMOs, VPs, and senior brand managers at larger enterprise customers. In doing so, it was able to structure three levels of pricing, such that customers could choose a particular package of access

[a] As a private company, Camera IQ does not release customer-level data, thus all numbers that appear in this section (other than the listed prices for the product) are disguised to protect the company's private information.

[b] For calculation purposes, students should use a 12% annual cost of capital.

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and benefits that best fit their needs (see **Exhibit 7**). The Champion package ($1,500/month) was geared toward designers and smaller teams looking for a self-serve solution. Marketing and design teams at brands that needed a more service-oriented package and who were just getting started with AR generally purchased the team package ($3,500/month), while marketing executives at larger companies usually selected the enterprise package (starting at $5,000/month). The variable cost of serving customers on the self-serve package was negligible given that the service was provided by the software platform, but the cost of serving the team and enterprise package customers included $7,500 for the proportional cost of a dedicated account manager (each account manager served ten customers and was paid a total of $75,000). Enterprise customers also received ten hours of creative services per month, which carried a variable cost of $60 per hour. All users paid a fee of $2,500 for onboarding, which involved guiding users through set up of the platform and designer and marketing training on designing for the camera, best practices for social media promotion, and understanding camera analytics (note, Camera IQ broke even on the onboarding fee given the cost of the trainers who guided new users through the process).

Types of Customers

As part of its go-to-market strategy, Camera IQ's sales team had to effectively qualify prospects and understand the needs of all stakeholders influencing the buying decision; namely designers, social media managers, and CMOs or vice presidents of marketing.

While they were not generally the buyer and/or budget holder, designers were critical stakeholders and platform users and, in many cases, determined the success of a customer's AR strategy. Designers were 2D and motion graphics savvy; some had 3D and AR experience, but most were looking to bring existing skillsets to AR. These designers were already creating AREs and their time and resources were short, so they were looking for ways to produce and deploy them more effectively and efficiently.

Social media managers were eager to find a camera marketing solution given their understanding of the results early campaigns were having, but they were less familiar with design software. Their goal was to maximize their brands' social media marketing and they saw AREs as a new way to enhance the return on investment of their social media spend. They wanted to test camera marketing to determine whether to make it a central part of their social media strategy. Some had already engaged AR agencies to build existing assets and were evaluating different ways of achieving it efficiently at scale. Given their experience with social media marketing, they were quite educated about performance marketing and thus valued the measurement features of the Camera IQ platform.

The least educated about camera marketing were often CMOs and vice presidents of marketing. Most employed and relied on external parties, such as large advertising agency partners, to help them design and deploy creative executions for social media advertising and to identify emerging branding and advertising trends. Many CMOs and senior brand managers were skeptical about the effectiveness of AR and struggling to understand its potential, with many preferring proven advertising solutions over what they sometimes perceived as emerging formats.

Camera IQ targeted two distinct types of customers: SMBs and large enterprise companies. The purchasing decision process at SMBs tended to be concentrated among a few individuals, involving the designer or social media manager and a brand manager or marketing lead. SMBs were more nimble and usually required fewer sales conversations to convert, but given their limited resources, appreciated the ability to try the product prior to purchase. Tsao estimated that it cost Camera IQ $15,000 to acquire a SMB customer, money that was spent on outbound advertising, content marketing and webinars, targeted email campaigns, press outreach, and account-based marketing initiatives. She believed that there were nearly 100,000 SMBs in the U.S. that could eventually benefit from Camera

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IQ's offering. On average, 85% of SMBs started with a Champion license, while the remaining 15% purchased a Team license.

Enterprise customers' decision making journey involved a greater number of stakeholders, often including multiple designers and social media managers. The final decision frequently depended upon receiving buy-in from one or more senior marketing executives who were responsible for the customers' overall digital marketing budget. Capturing a significant share of that budget was tough for a nascent marketing format like camera marketing. As such, enterprise prospects required a much longer and complex marketing and sales process, which Tsao estimated cost $40,000 per client and consisted largely of face-to-face business development meetings or corporate "Lunch and Learns," where Tsao and Ferenci accompanied the sales team to an educational session at a prospective client, where creative proof of concepts were developed and pitched. Of all enterprise customers, 70% bought an Enterprise license, while the rest preferred to start at the Team license level. Tsao believed that there were 5,000 large enterprises in the U.S. with whom Camera IQ could partner and support.

Industry Vertical

Camera IQ also served SMBs and enterprise businesses in various industry verticals, including:

- **Music and Entertainment:** Camera IQ was a partner to many record labels, and its platform enabled them to deliver AREs that helped artists connect with their fans, promote new music, and sell concert tickets. To date, Camera IQ had deployed more than 250 music experiences across platforms, which generated over 300 million views. Entertainment brands were also looking to AR to created virtual experiences for television and movie programming. The cost of acquisition in this segment averaged $20,000.

- **Gaming and eSports:** AR was proving to be the perfect medium to reach hyper-engaged gamers and fans of sports franchises and e-Sports leagues. One client launched 100+ AREs across Facebook, Instagram, and Snapchat in the first six months of 2020. Play rates in the gaming vertical often exceeded 90%. The cost of acquisition in this segment averaged $20,000.

- **Beauty:** AR try-on capabilities were becoming a must-have in the beauty industry, which was becoming more fragmented and saturated. Camera IQ client Wet 'n Wild Beauty used AR as a tool for customers' self-expression. The cost of acquisition in this segment averaged $25,000.

- **Direct-to-Consumer (DTC) Brands:** Digitally-native brands such as Glossier, Away, and Casper relied heavily on social media marketing to sell their products and many were experimenting with AREs to create branded experiences to bring consumers into their brand lifestyles. The cost of acquisition in this segment averaged $20,000.

- **Large Consumer Packaged Goods (CPG) Brands:** Many CPG brands were late to the digital marketing party, but had been stepping up their spending on social media channels. These brands were owned by the world's largest multibrand companies, including Nestlé, P&G, Unilever, Coca-Cola Company, and PepsiCo, who collectively accounted for a significant percentage of the total digital media spend globally. Camera IQ estimated that its large CPG clients were receiving 500x their social media follower count in ARE views. The cost of acquisition in this segment averaged $25,000.

As Tsao debated the choices, she reviewed the sales team's performance to date. Once they were in the door for a virtual or physical sales call, the sales team was having good success in closing customers, with an average 8% sales conversion rate. Existing clients were also recommending the service to their

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networks, both internally and externally, allowing Camera IQ to "land and expand" across an enterprise, beginning a relationship with one brand and then leveraging that to sell business to its sister brands. They were also pleased that monthly customer churn rates suggested satisfaction. **Table A** summarizes the retention and word-of-mouth metrics.

Table A Customer Retention and Word-of-Mouth Conversion by Customer Type

	Products Purchased	Monthly Churn Rate	Monthly Word-of-Mouth Conversion Rate
SMB Customers	85% Champion, 15% Team	4.3%	0.005
Enterprise Customers	30% Team, 70% Enterprise	1.6%	0.035
Music/Entertainment	55% Champion, 25% Team, 20% Enterprise	3.4%	0.009
Gaming/eSports	45% Champion, 30% Team, 25% Enterprise	2.9%	0.005
Beauty	50% Champion, 35% Team, 15% Enterprise	3.6%	0.018
DTC Brands	70% Champion, 30% Team	4.0%	0.003
CPG Brands	40% Champion, 30% Team, 30% Enterprise	3.2%	0.021

Source: Company documents.

Notes: The monthly churn rate represents the percentage of customers who cancel their subscription each month. The monthly word-of-mouth conversion rate represents the number of new customers an existing customer helps Camera IQ acquire each month. Note that the customer acquisition cost that Camera IQ expends to acquire the customers that come to it via existing customer word-of-mouth is zero, as these customers are acquired entirely from earned media. Assume that the customers acquired via word-of-mouth resemble those customers that recruited them. Note, once existing customers churn, they no longer recommend the brand to others, so their monthly word-of-mouth conversion rate drops to zero.

Tsao noticed that both customer churn and word-of-mouth conversion rates were reliant on time spend on the Camera IQ software platform. To derive meaningful results from the software, customers needed to invest 15 hours of time per month across team members to it to create, manage, and measure AREs. While the platform offered an end-to-end solution, it still required someone at the company to build AR assets. Those who spent less time on the platform churned more quickly as they were unable to reap the benefits of AR in their social media if they did not use the platform to create AREs.

The Scaling Opportunity

The two founders sat down to debate the customer target decision, which would help align all of their resources behind scaling successfully and guide future product development efforts. As Tsao thought about the two types of customers, she realized that she might need to develop and support a different customer value proposition to address the distinct needs of each one. She mused, "At our early stage, you have to be focused; you have to choose a path and a customer. What an enterprise customer needs versus what a small business or startup user needs is going to be quite different. Do we double down on the creative tools? Or do you focus on the measurement infrastructure that a large company is going to demand? With which types of people do we staff our sales team?" She continued, "It's tough for any company to go after too many types of users, especially when they have different intentions or goals. We have to think specifically about use cases, because the tool can't be everything

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to everyone, at least not right away." She realized that the company should decide whether to target large enterprise customers or SMBs, as it would be difficult and costly to market to both. She wondered whether the company should 1.) continue to invest in customer acquisition in industry verticals where it had previously had success, such as media, entertainment, and gaming, where AREs were used to build fandom and engage audiences in digital content, or 2.) pivot to industry verticals such as beauty, DTC, and Big CPG, where companies were engaged in e-commerce and the sale of physical goods, but where Camera IQ had less experience.

Tsao's background in marketing and business pushed her more toward the enterprise customer, who she felt would recognize that AREs were forging a more intimate, immersive, and engaging customer interaction than traditional social media content. She also realized, "That's where the budgets are." However, she was cognizant of the challenges of selling to this type of customer, "You have to have buy-in from the internal design team as well as from the social marketing team, and they care about different things than what the VP of marketing cares about. In this type of sale, we have a buyer, a user, and a champion to sell." However, she also saw potential in SMBs and the long tail opportunity, "Do we pursue SMBs that historically have not had the budgets to invest in AR due to its high costs, but whom would benefit from our lower cost platform?" she wondered.

Ferenci was partial to the designer segment. Her dream of democratizing camera marketing began with them. She reminded, "We're democratizing and demystifying how to apply existing brand assets to a three-dimensional environment. We're empowering them to do this using their existing knowledge and existing tools, with the support of Camera IQ. We're changing the way they think about AR, we're educating and empowering them to be AR designers." She also wondered how Camera IQ could best contribute to rapidly building a community of designers who felt comfortable creating 3D AR assets, given that most designers did not currently have this expertise, and saw this community development as a necessary step in bringing camera marketing into the mainstream.

The two were also evaluating two new product ideas that could help them accelerate the company's growth but that required resource investments. Ferenci believed that Camera IQ should build a two-sided marketplace for AR content and templates, where designers could create and offer for sale ARE creative assets, which other designers and social media managers could purchase to use in their camera marketing programs. To date, brands had been willing to invest in creating brand-specific AR assets, but were less willing to spend time and money building more generic assets that were often necessary to build robust AREs. As Ferenci described, "What are the things that designers want to use to help tell their story better, but aren't actually foundational to their brand and not a good use of their time to build themselves?" A marketplace would save companies the cost of creating these types of assets by offering them access to templates and standard designs, and at the same time, provide a creative and business outlet for independent designers to sell their work. "By unlocking an ever-growing library of assets, we are essentially removing an additional barrier for clients to scale their AREs and incentivizing designers to create more experiences with ease for an always-on AR strategy," Ferenci added.

Given the experiences of other creative two-sided platforms, such as 99Designs and Canva, she believed that Camera IQ could earn a 15% commission on the sale of AR creative assets and estimated that a 2D asset would sell for $50 and a 3D asset would sell for $500, on average. She forecasted that SMBs would purchase 20 2D assets and 10 3D assets per year, while Enterprise customers would purchase 30 2D assets and 24 3D assets per year. Tsao appreciated the idea of a marketplace but thought it would be premature at this stage, "With limited resources, we should double down on our own platform and solidify our position as a preferred design tool for AR, especially given the size of our customer portfolio."

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Another initiative Ferenci and Tsao were considering was the introduction of a new product tier at a lower price point of $499/month to help Camera IQ more easily acquire customers, particularly SMBs who were considering the Champion product that were hesitant about investing in AR and budget constrained. This new tier would have fewer features and include caps on usage and the number of campaigns a user could publish. It would also receive less direct customer service support. "There is an argument for flooding the market and quickly acquiring customers that we would then try to grow over time," Tsao argued. She continued, "The challenge is that our best performing customers, those that consider Camera IQ as a 'must-have,' tend to receive hands-on support from our customer team, which has direct cost implications. There is a trade-off between how involved we can be and how feasible providing that service is from a cost perspective. In response to that tension, we are investing in educational content and automating some of our customer support activities." Tsao surmised that with the right self-serve resources on the platform, customers in this lower tier would be able to navigate, use, and benefit from the Camera IQ solution without the level of involvement of the customer support team previously required. However, Ferenci worried about a capped product tier and about limiting the number of campaigns a company could publish. She believed that a priority was to incentivize companies to create and publish as many AREs as possible so that it would become a habit for companies to include AR in their future marketing and e-commerce strategies and budgets.

As the two founders discussed the future, they were confident about one important thing. The camera was becoming a much more important and prevalent part of consumers' social media and shopping behavior. "No other medium gives the same emotional response and engagement from a customer. AR has fundamentally changed the brand and consumer relationship and will continue to redefine the way businesses engage with their consumers across all touchpoints," Tsao conferred. "And, Camera IQ will be by their sides to enable them to do so!" Ferenci concluded with a smile.

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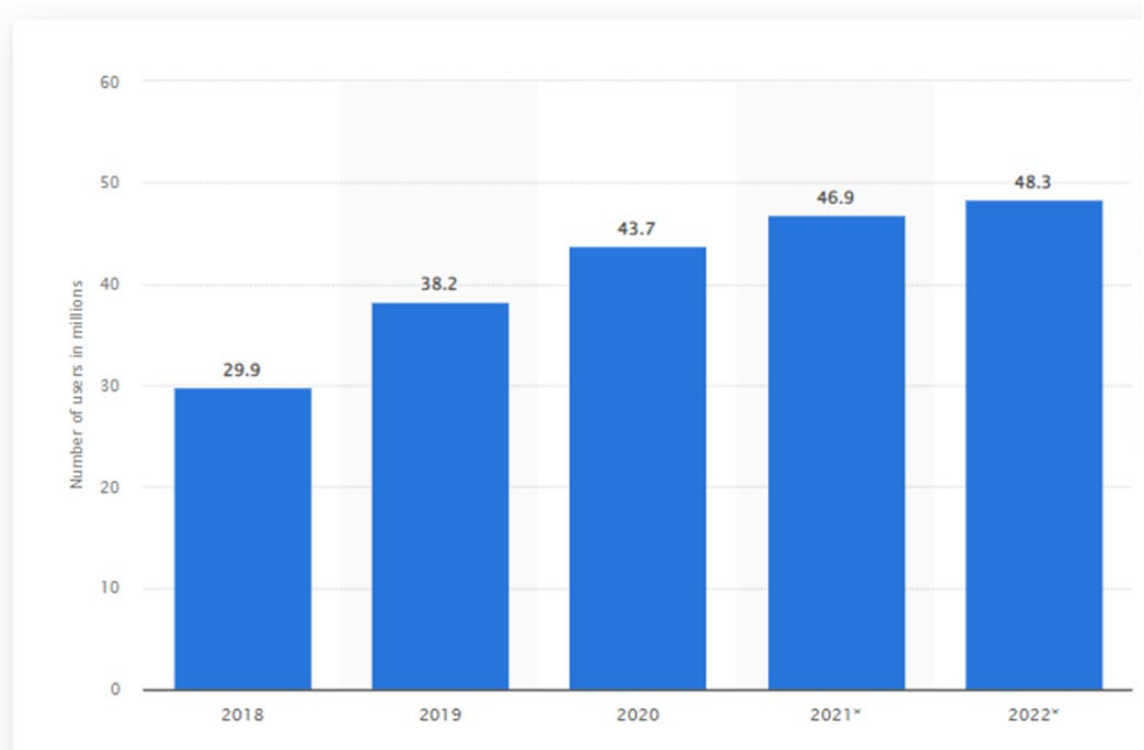
Exhibit 1 U.S. Consumers Using Augmented Reality on Social Networks, in millions (2018-2022)



Source: "Number of Social Network Augmented Reality (AR) Users in the U.S. from 2018 to 2022," *Statista*, united-states-social-network-ar-users, accessed 09/23/2020.

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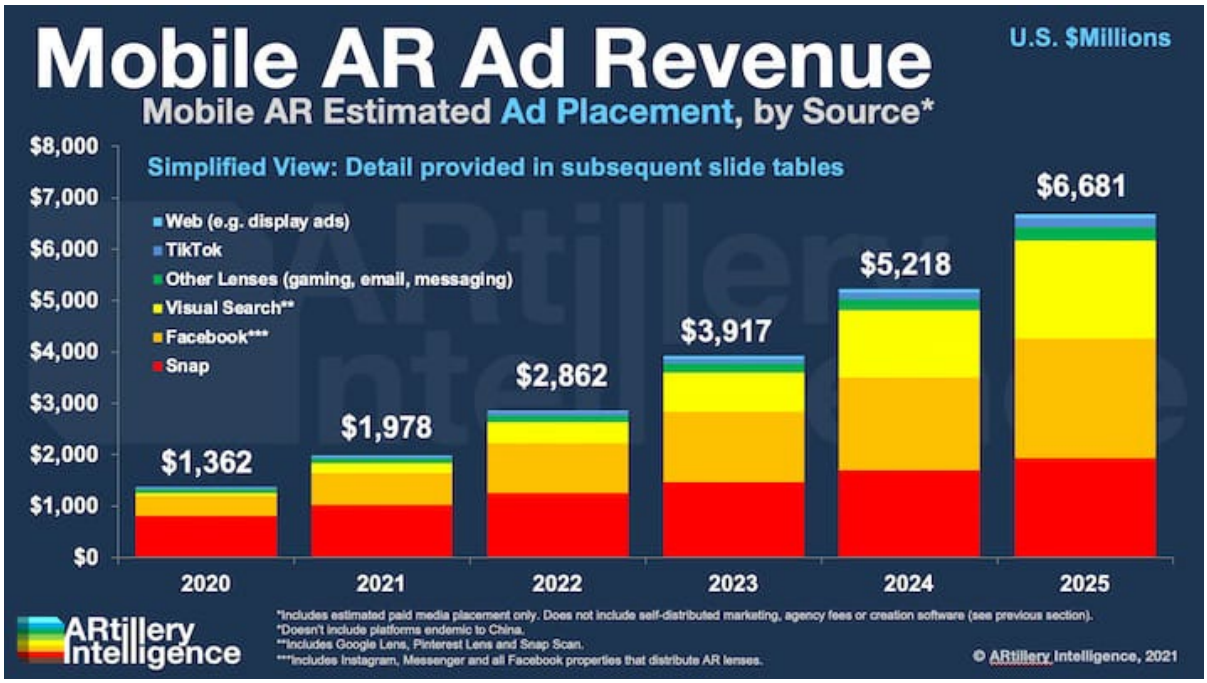
Exhibit 2 Global Mobile AR Advertising Revenues (2019-2024)



Source: "AR Usage & Consumer Attitudes, Wave III," ARtillery Intelligence and Thrive Analytics, June 9, 2020, https://artillry.co/artillry-intelligence/ar-usage-consumer-attitudes-wave-iii/, accessed 09/23/2020.

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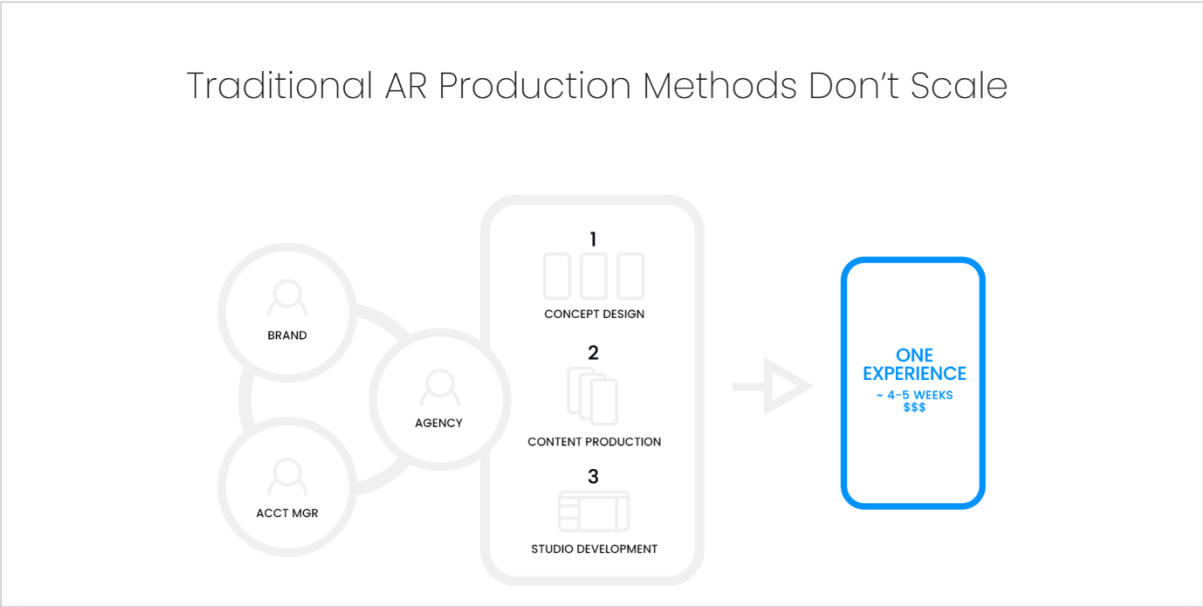
Exhibit 3 Understanding the Camera IQ Difference



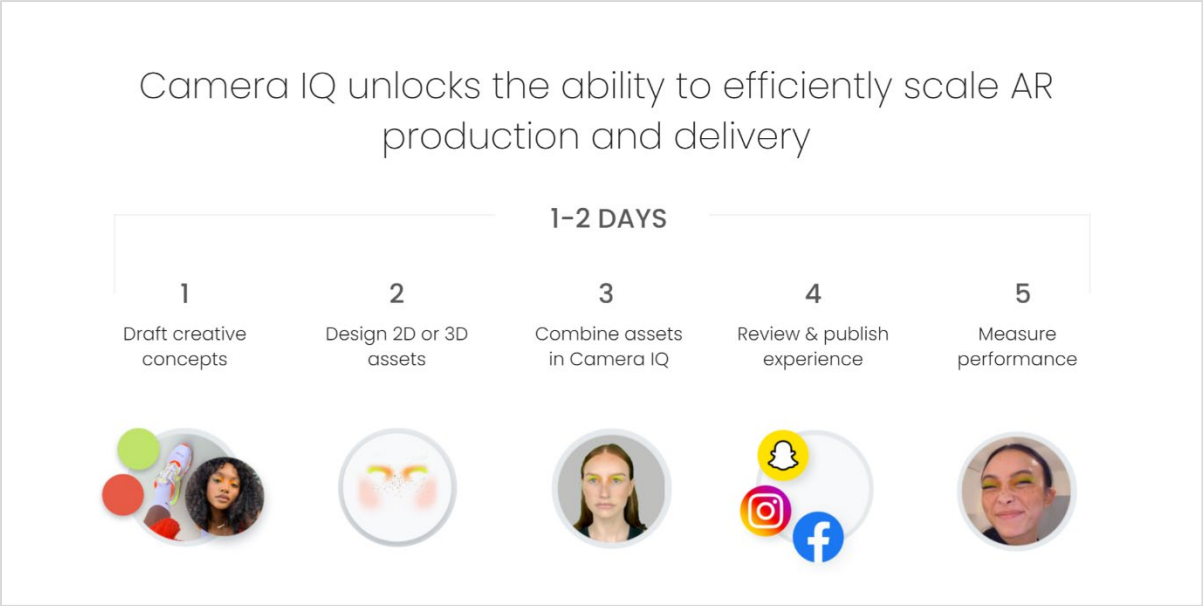


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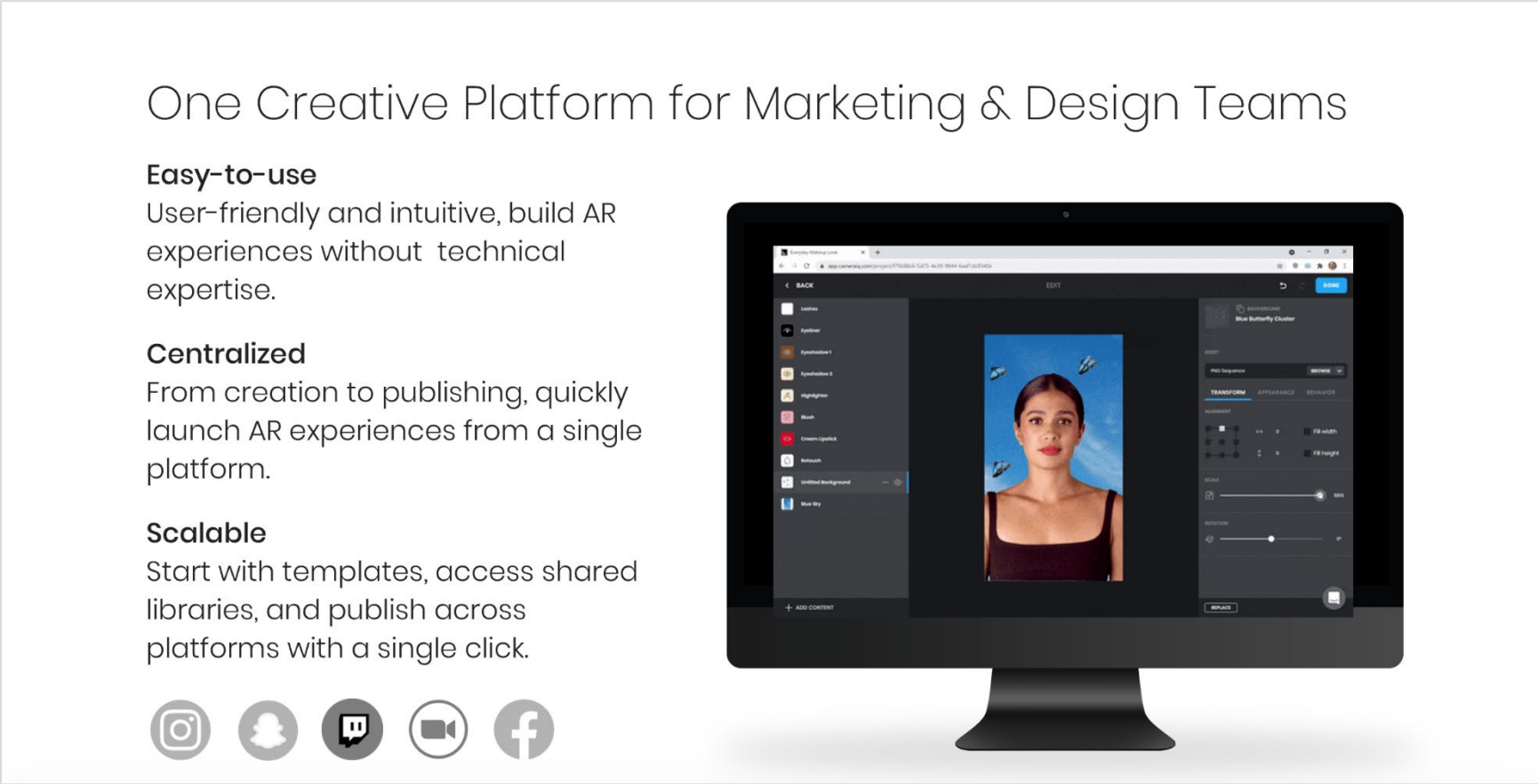
Exhibit 4 Camera IQ's End-to-End Camera Marketing Solution



Source: Company documents.

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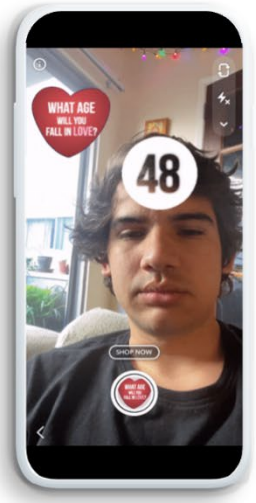
Exhibit 5 Examples of Camera IQ-supported AREs

- Camera IQ supports brands on paid AR ads, across brand awareness, consideration and conversion. Combine always-on organic AREs and targeted paid AREs to drive performance cost effectively

Paid AR Ads



- Shopping capabilities are now available across Snapchat, IG and Facebook. Camera IQ can help brands create and deploy AREs that drive to commerce and conversion across platforms.

Commerce Add-ons

- Camera IQ now supports 3D assets. Build your library of AR-optimized 3D models to deliver even more engaging and accurate AREs. 3D production and optimization services available.

3D Assets

Source: Company documents.

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Exhibit 6 Camera IQ's Customer Portfolio

Source: Company documents.

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Exhibit 7 Camera IQ's Product and Price List

Camera IQ: September 2020 License Pricing
A plan for every marketing team

FEATURE	CHAMPION $1,500/month	TEAM $3,500/month	ENTERPRISE Starting at $5,000/month
Private onboarding	✓	✓	✓
Publish to IG, Snap, FB	✓	✓	✓
Campaigns/ month	Unlimited	Unlimited	Unlimited
In-app customer support	✓	✓	✓
Seats	3	8	Starting at 15
Brand accounts	1 FB, 1 IG, 1 Snap	3 FB, 3 IG, 3 Snap	Starting at 6 FB, 6 IG, 6 Snap
Account management	X	Account management	Dedicated strategist
Performance insights	4 monthly reports	Monthly (3mth collection)	Monthly (12mth collection)
Camera IQ creative support	Available as add-on	Available as add-on	10-hours
Brand SKU library	✓	✓	✓
Publish to beta partners	X	X	✓
Business & performance reviews	X	Quarterly	Monthly

Source: Company documents.

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