

Exhibit 22



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UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF VIRGINIA
ALEXANDRIA DIVISION

RAI STRATEGIC HOLDINGS, INC. and
R.J. REYNOLDS VAPOR COMPANY,

Plaintiffs and Counterclaim
Defendants,

v.

ALTRIA CLIENT SERVICES LLC; PHILIP
MORRIS USA, INC.; and PHILIP
MORRIS PRODUCTS S.A.,

Defendants and Counterclaim
Plaintiffs.

Case No. 1:20-cv-00393

**REPORT OF
RYAN SULLIVAN, Ph.D.**

A handwritten signature in black ink, appearing to read "R. Sullivan", written over a horizontal line.

Ryan Sullivan, Ph.D.

March 24, 2021

China.⁵⁴ For example, certain Nu Mark MarkTen products were manufactured in China, and certain JUUL products are manufactured in China.⁵⁵ As discussed in Section 3.1, e-cigarettes are regulated in the United States by the FDA.⁵⁶

(30) In 2014, there were more than 460 brands of e-cigarettes and 7,700 flavors sold on the internet.⁵⁷ As of 2017, the number of e-cigarette brands decreased to 433, 12 of which were operated by major tobacco companies.⁵⁸ Four companies have achieved more than a 40% share in the market since 2012: NJOY, Imperial Brands, British American Tobacco (Reynolds), and JUUL.⁵⁹

(31) Reynolds first entered the market with the launch of VUSE Solo in 2013,⁶⁰ followed by the Alto, Ciro, and Vibe.⁶¹ Upon its release, VUSE was deemed “technologically interesting,” and that “[n]ear-term, [VUSE] clearly raises the competitive stakes[.]”⁶² Reynolds was the market

⁵⁴ The New York Times, “China’s Vaping Boo Alarms the Government,” 11/22/2019, <https://www.nytimes.com/2019/11/22/business/international/china-vaping-ban.html>. (“Ninety percent of the world’s e-cigarettes are made in China, and most of them are produced in Shenzhen, a southern city that borders Hong Kong.”)

While some manufacturing is performed in China, Reynolds manufactures its VUSE Solo cartridges in the United States. In addition, all of the e-liquid used in the VUSE products is blended in the United States, and e-liquid is a critical component of the VUSE products. See:

Section 7.7.5.

⁵⁵ Juul Labs Press Release, “Juul Labs Commitment to High Manufacturing and Quality Standards,” 8/23/2019, <https://www.juullabs.com/juul-labs-commitment-to-exacting-standards/>. (“JUUL products are manufactured in China, Hungary, Mexico, and several locations in the United States.”)

Appendix 4.1 to “2016 Surgeon General’s Report: E-Cigarette Use Among Youth and Young Adults,” at A4.1-2, available at: https://www.cdc.gov/tobacco/data_statistics/sgr/e-cigarettes/pdfs/2016_SGR_App_4-1_508.pdf. (“MarkTen is a brand from NuMark. MarkTen is manufactured in China, and its e-liquids are produced by an affiliate of NuMark in the United States.”)

⁵⁶ Kowitz, Sarah D. et al. (2017), “Attitudes Toward FDA Regulation of Newly Deemed Tobacco Products,” *Tobacco Regulatory Science* 3(4): 504-515 at 504.

⁵⁷ Zhu, Shu-Hong, et al. (2014), “Four Hundred and Sixty Brands of e-Cigarettes and Counting: Implications for Product Regulation,” *Tobacco Control* 23: iii3–iii9, at iii6.

⁵⁸ Hsu, Greta, Jessica Y Sun, and Shu-Hong Zhu (2018), “Evolution of Electronic Cigarette Brands From 2013-2014 to 2016-2017: Analysis of Brand Websites,” *Journal of Medical Internet Research* 20(3): e80, at pdf 3.

⁵⁹ JP Morgan, “Juul’s Success Triggers FDA Actions. Positive for European Tobacco,” 9/13/2018 at 3. (“[F]our players reached more than 40% share in e-cigarettes since 2012 (Njoy, Imperial, British American Tobacco and now Juul).”)

⁶⁰ VUSE Website, Devices, <https://vusevapor.com/devices> (accessed 3/16/2021). (“Vuse has been pioneering vapor technology since 2013, when we launched Vuse Solo – the world’s first truly digital vapor cigarette.”)

⁶¹ VUSE Website, Devices, <https://vusevapor.com/devices> (accessed 3/16/2021).

R.J. Reynolds Vapor Company Website, Vapor, <https://www.rjrvapor.com/products/vapor> (accessed 3/16/2021).

⁶² Morgan Stanley, “Reynolds American Blazing a Digital Vapor Trail with VUSE Launch,” 6/6/2013, at 1.

share leader from 2015 to 2017,⁶³ and their e-vapor developments have been part of Reynolds' "multi-decade track-record of thought-leading innovation" in the U.S. tobacco industry.⁶⁴ NJOY sells e-cigarettes in two variants, the "ACE" and the "DAILY."⁶⁵ Imperial Brands sells the vapor product "blu" or "myblu".⁶⁶ In 2015 JUUL Labs launched JUUL, which has been the market share leader since 2017.⁶⁷ Altria previously operated within the market through their subsidiary Nu Mark, with the "MarkTen" and "Green Smoke" products, although both products were discontinued as of December 19, 2018.⁶⁸ The same day, Altria announced its offer for a \$12.8 billion investment for a 35% share in JUUL.⁶⁹ Per the terms of their investment agreements, Altria is subject to non-competition obligations, restricting them from investing or engaging in the e-vapor business other than through JUUL.⁷⁰ PM USA sells the

⁶³ Levy, David T. et al. (2019), "An Economic Analysis of the Pre-Deeming U.S. Market for Nicotine Vaping Products," *Tobacco Regulatory Science*, 5(2): 169–181, at 176, Table 2.

⁶⁴ Cowen and Company, "MA+Innovation = Structurally Advantaged Growth; Groans Over Guidance Priced In," 8/15/2016, at 1. ("As seen in Figure 1, RAI has a multidecade track-record of thought-leading innovation in U.S. tobacco, including VUSE which is the market share leader in e-cigarettes in traditional retail outlets.)

⁶⁵ NJOY, NJOY ACE, <https://shop.njoy.com/shop/devices/njoy-ace/> (accessed 3/16/2021).

NJOY, NJOY DAILY, <https://shop.njoy.com/shop/devices/daily/> (accessed 3/16/2021).

⁶⁶ Imperial Brands Website, Next Generation Products, <https://www.imperialbrandsplc.com/about-us/next-generation-products.html> (accessed 3/5/2021).

⁶⁷ JUUL Labs, Discover JUUL, <https://www.juul.com/learn/discover> (accessed 3/16/2021).

Business Insider, "The Precarious Path of E-Cig Startup Juul: From Silicon Valley Darling to \$24 Billion Behemoth Under Criminal Investigation," 10/31/2019, <https://www.businessinsider.com/juul-timeline-from-startup-to-tobacco-company-challenges-bans-2019-9>, at PDF 12.

Barclays, "JUUL – Disruption Comes to Tobacco," 7/30/2018, at 2.

Credit Suisse, "US Market Data from Nielsen," 5/26/2020, at 6.

⁶⁸ MarkTen Website, FAQs, <https://www.markten.com/> (accessed 12/3/2020).

Green Smoke Website, FAQs,

<https://www.greensmoke.com/#:~:text=As%20of%20December%2019th%2C%202018,retail%20locations%20while%20supplies%20last.> (accessed 3/4/2021).

Altria, Form 10-K, 2018, at 45. ("Altria's other operating companies included Philip Morris Capital Corporation ("PMCC"), . . . and Nu Mark LLC ("Nu Mark"), both of which are wholly-owned subsidiaries. In December 2018, Altria announced the decision to refocus its innovative product efforts, which includes the discontinuation of production and distribution of all MarkTen and Green Smoke e-vapor products. Prior to that time, Nu Mark was engaged in the manufacture and sale of innovative tobacco products.")

⁶⁹ Levy, David T. et al. (2019), "Altria-Juul labs Deal: Why Did it Occur and What Does it Mean for the US Nicotine Delivery Product Market," *Tobacco Control* 0: 1–4, at 1. ("On 19 December 2018, Altria announced an offer of US\$12.8 billion for a 35% share of Juul Labs.")

⁷⁰ Altria, Form 10-K, 2019, at 7. ("Our minority investment in JUUL subjects us to non-competition obligations restricting us from investing or engaging in the e-vapor business other than through JUUL, subject to certain exceptions.")

SEC Exhibit 99.1, "Altria Group, Inc. and Subsidiaries Consolidated Financial Statements as of December 31, 2018 and 2017, and for Each of the Three Years in the Period Ended December 31, 2018,"

heat-not-burn product IQOS in limited markets within the United States through an agreement with Philip Morris International, Inc.⁷¹ Although not an e-cigarette, IQOS competes with e-cigarettes within the U.S. non-combustible market for adult smokers looking for alternatives to combustible cigarettes.⁷²

(32) As of January 2021, for in-store retail purchases, JUUL accounted for a 52.1% dollar share of e-cigarette sales, followed by VUSE at 29.2%, NJOY at 5.0%, blu at 3.5%, Logic at 1.2%, and all other brands at an implied 9.0%.⁷³ In the same period, JUUL accounted for a 40.2%

<https://www.sec.gov/Archives/edgar/data/764180/000076418019000012/exhibit9912018financialsta.htm> at PDF 27. (“Altria has agreed to non-competition obligations generally requiring that it participate in the e-vapor business only through JUUL as long as Altria is supplying JUUL services, which Altria is committed to doing for at least six years.”)

See also:

Section 12.3.4.

⁷¹ Altria, From 10-K, 2020, at 18. (“In March 2020, PM USA temporarily closed its Atlanta and Richmond IQOS stores and paused its IQOS interactive marketing efforts. In June 2020, PM USA reopened its Atlanta and Richmond IQOS stores, and in July 2020, PM USA launched IQOS in Charlotte, with all stores operating under enhanced safety protocols.”)

Altria, From 10-K, 2019, at 7. (“Some innovative tobacco products may reduce the health risks associated with current tobacco products, while continuing to offer adult tobacco consumers (within and outside the United States) products that meet their taste expectations and evolving preferences. . . . In addition to internal product development, these efforts include arrangements with, or investments in, third parties such as our exclusive arrangement with PMI to sell IQOS and related heatstick [sic] products in the United States, which is dependent upon our continued ability to license these products from PMI, and our minority investment in JUUL.”)

⁷² Philip Morris International, “2020 First-Quarter Results,” 4/21/2020, at 18, available at: <https://philipmorrisinternational.gcs-web.com/static-files/4f3ed693-a022-4770-9d6c-ddb2ea81d7d2>. (Financial chart places IQOS within the RRP category).

Altria Client Services, “Aerosol Products Global Competitive Landscape,” 4/19/2016, (Altria_IQOS_ITC_0123268–298, at Altria_IQOS_ITC_0123271). (Identifies “E-Vapor, Heat-Not-Burn, Tobacco & Vapor, and Inhaler” product categories as being “in-scope” and provides VUSE and IQOS as examples of the e-vapor and heat-not-burn categories, respectively.)

Philip Morris International, “PMI/PM USA Meeting, Competitive Intelligence,” 4/30/2018, (Altria_IQOS_ITC_00160771–785, at Altria_IQOS_ITC_00160776–77). (“Competitive Intelligence” discusses BAT’s product portfolio including heat-not-burn, vapor, and smokeless/snus products.)

Levy, David T. et al. (2019), “Altria-Juul Labs Deal: Why Did it Occur and What Does it Mean for the US Nicotine Delivery Product Market,” *Tobacco Control* 0: 1–4, at 1. (“Altria has recently gained permission from the FDA to market Phillip Morris International (PMI’s) heated-tobacco product, iQOS, which is also likely to compete with vaping products for a share of the nicotine delivery market.”)

⁷³ Cowen and Company, “Tobacco Analysis: Nielsen xAOC + C-Store,” 1/5/2021, at 7.

Implied “other brand” dollar share = 100% - (Sum of market shares) = 100% - (52.1% + 29.2% + 3.5% + 1.2% + 5.0%) = 100% - 91% = 9.0%.

Data is from the four-week period ending 12/26/2020. Data used for the report is Nielsen xAOC and C-Store purchase data. xAOC stands for eXtended All Outlet Combined and C-Store is short for convenience stores. The xAOC data include sales from food, drug, mass merchandise, club, and military stores. See:

CPG Data Insights, “Test Your Knowledge: Are you Syndicated Data Literate? (Part 1),” 5/25/2016, <https://www.cpgdatainsights.com/get-started-with-nielsen-iri/syndicated-data-literacy/>.

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