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*The Case for Blockchain in the Beauty Industry*

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## I. Introduction

In the last ten years, we have seen exponential growth in the beauty space. The sprawling industry is now valued at over \$532 billion and on a rapid upward trajectory.<sup>1</sup> By 2024, it is estimated to be worth up to \$750 billion.<sup>2</sup> 2019 was a big year for the beauty industry, with large beauty corporations making their first tech acquisitions and an overall industry-wide push towards customized beauty products, increased transparency, and sustainable alternatives.<sup>3</sup> We are likely to see technology-backed cosmetics brands continue to transform the beauty space in 2020 and beyond.

Consumers are increasingly demanding greater insight into what their products are actually made of instead of taking the advertised word for it. This is especially true as “the link between specific cosmetics ingredients and health issues become more apparent.”<sup>4</sup> The transparency of product ingredients has become a top priority not only for beauty and personal care brands, but also for consumer packaged goods and more broadly, retail companies. Prominent consumer goods corporations like Unilever, Procter & Gamble, and Target “are tapping into this trend through acquisitions, accelerators, internal brand incubation, and more.”<sup>5</sup> In fact, there has been a clean beauty movement that has manifested from the consumer demand for ingredient transparency. And the clean beauty economy is booming: “The global natural and organic beauty market is estimated to be a \$22 billion global market.”<sup>6</sup>

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<sup>1</sup>“Beauty becomes a \$532 billion industry thanks to these trends ....” Accessed February 24, 2020. <https://www.businessinsider.com/beauty-multibillion-industry-trends-future-2019-7>.

<sup>2</sup>“How the Beauty Industry is Making the World Beautiful with ....” Accessed February 24, 2020. <https://expansion.tech/how-the-beauty-industry-is-making-the-world-beautiful-with-blockchain/>.

<sup>3</sup> Beauty becomes a \$532 billion industry thanks to these trends ....” Accessed February 24, 2020. <https://www.businessinsider.com/beauty-multibillion-industry-trends-future-2019-7>

<sup>4</sup>“15 Trends Changing The Face Of The Beauty ... - CB Insights.” Accessed February 24, 2020. <https://www.cbinsights.com/research/report/beauty-trends-2019/>.

<sup>5</sup> Ibid.

<sup>6</sup> Ibid.

But, there is a murky side to the clean beauty movement. The U.S. Food and Drug Administration has limited oversight over ingredient standards for products and cosmetics manufacturing in general. In fact, cosmetics regulations in the United States haven't been updated since 1938.<sup>7</sup> Though the Federal Food, Drug, and Cosmetics Act of 1938 has been "amended many times since its inception," and the entire document has gone from 19 pages to 692 pages, "the cosmetics-specific section of the bill is still only one-and-a-half pages long."<sup>8</sup> So despite the widespread use of terms like "natural" and "clean," their use is unregulated and therefore, there is no consistent standard for them across the beauty and personal care space.

As a result, brands have been accused of making misleading claims so as to present themselves as more environmentally responsible than they really are, or "greenwashing." This can have a harmful effect not only on a brand's reputation, but also consumer health because of greenwashing's confusing and misleading nature. Despite these issues, the ingredient transparency trend that seems to be here to stay is transparency technology. Greater experimentation of blockchain technology across consumer-packaged goods and the retail market are creating initiatives in the beauty and personal care space regarding ingredient transparency.

Part II of this paper addresses the legal issues presented by counterfeit cosmetics and false claims, and also compares the regulatory landscape in the United States versus that of the European Union. Part III analyzes how blockchain can be used to fill in the gaps left by the lack of strong regulations in the United States and provide consumers reliable methods of authenticating the ingredients in their personal care products. Part III also explains how Cult

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<sup>7</sup> Ibid.

<sup>8</sup>"A History of Personal Products and Cosmetics Government ...." Accessed March 12, 2020. <http://www.prettyuglythefilm.com/a-history-of-personal-products-and-cosmetics-government-regulation/>.

Beauty is implementing blockchain in its business. Part IV discusses the potential hurdles and negatives of using blockchain in the beauty industry. Part V concludes this paper.

Consumers are demanding transparency and no longer allowing beauty giants to get away with unsubstantiated claims as they did in the past. Brands are being held to a higher standard when it comes to doing their research, making honest claims, and investing in technology to meet the expectations of transparency-minded consumers. One beauty retailer that is disrupting the beauty industry with the new norm of “transparency with integrity on products” is Cult Beauty.<sup>9</sup> Cult Beauty is partnering with Provenance, “a digital platform that empowers brands to take steps toward greater transparency” to allow businesses to “easily gather and present information and stories about products and their supply chains, including verified data to support them.”<sup>10</sup> This is a game-changing partnership set to pave the way for the transparency technology that more and more businesses will need to implement in order to thrive.

## II. The Legal Issues

### A. Addressing false claims

Counterfeit cosmetics present a growing challenge because they not only pose significant health risks to consumers, but they also raise serious legal concerns for brand manufacturers, distributors, and retailers. In 2015 alone, U.S. Customs and Border Protection “seized more than 2,000 shipments of counterfeit cosmetics, worth an estimated \$1.4 billion.”<sup>11</sup> This trend remains

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<sup>9</sup> "Cult Beauty pioneers transparency in beauty ... - Provenance." Accessed February 24, 2020. <https://www.provenance.org/news/movement/cult-beauty-pioneers-transparency-in-beauty-with-the-provenance-blockchain-platform>.

<sup>10</sup> "About | Provenance." Accessed February 24, 2020. <https://www.provenance.org/about>.

<sup>11</sup>"Counterfeit Cosmetics: Fake Beauty, Real ... - Duane Morris LLP." Accessed March 10, 2020. [https://www.duanemorris.com/articles/counterfeit\\_cosmetics\\_fake\\_beauty\\_real\\_danger\\_0418.html](https://www.duanemorris.com/articles/counterfeit_cosmetics_fake_beauty_real_danger_0418.html).

steady every year, “with total seizures of personal care products constituting six percent of all counterfeit good seizures by the U.S. Department of Homeland Security in 2017.”<sup>12</sup>

Counterfeit cosmetics may contain toxic ingredients that can expose consumers to fatal, long-term health problems. They are often manufactured in unhygienic conditions overseas, “where unsafe temperatures and dangerous levels of bacteria go unchecked.”<sup>13</sup> Without optimal conditions for manufacturing cosmetics, products that consumers apply to their faces and bodies can cause skin rashes, permanent scarring, and eye infections, amongst other things.<sup>14</sup> Further, counterfeit cosmetics seized by U.S. Immigration and Customs Enforcement “have been found to contain high levels of toxic and/or banned substances including cyanide, mercury, and lead.”<sup>15</sup>

When it comes to labeling cosmetics or personal care products, the terms “natural” or “organic” are often used to attract consumers looking for clean products without toxic ingredients. The U.S. Food and Drug Administration (FDA), however, requires that cosmetics labeling be “truthful and not misleading,” but “has not defined the term ‘natural’ and has not established a regulatory definition for this term in cosmetic labeling.”<sup>16</sup> Further, the “FDA also does not have regulations for the term ‘organic’ for cosmetics.”<sup>17</sup> The organization warns that choosing ingredients from sources that consumers may consider organic or natural is no guarantee that they are actually safe and won’t cause consumers unforeseen harm. The responsibility is essentially placed on the consumer to make sure ingredients are safe when used according to labeling.

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<sup>12</sup> Ibid.

<sup>13</sup> Ibid.

<sup>14</sup> Ibid.

<sup>15</sup> Ibid.

<sup>16</sup> “Small Businesses & Homemade Cosmetics: Fact Sheet | FDA.” Accessed March 12, 2020.

<https://www.fda.gov/cosmetics/resources-industry-cosmetics/small-businesses-homemade-cosmetics-fact-sheet>.

<sup>17</sup> Ibid.

Despite the proven harm posed by counterfeit cosmetics to consumers, the regulatory landscape makes aggressive enforcement quite challenging. The Federal Food, Drug, and Cosmetics Act of 1938 defines cosmetics as “articles intended to be rubbed, poured, sprinkled or sprayed on, introduced into or otherwise applied to the human body for cleansing, beautifying, promoting attractiveness or altering the appearance.”<sup>18</sup> This definition applies to a wide spectrum of products, such as skin moisturizers, eye and facial makeup, perfumes, shampoos, hair colors, and deodorants.<sup>19</sup> The definition in itself covers products that can individually harm various areas of a person’s body, and the regulation of those products should not be grouped together into a one size fits all regulation.

Though the FDA is “tasked with regulating the cosmetics and personal care industry, the cosmetics industry remains largely self-policed.”<sup>20</sup> Cosmetic products and ingredients (other than color additives) are not required to have FDA approval before they go on the market, so there’s no regulatory body that evaluates a manufacturers’ claims about the safety of cosmetics. There is no legal requirement for the cosmetics industry “to collect or report adverse events or even register products,” meaning that “the FDA must rely on voluntarily submitted adverse reports from consumers and/or manufacturers to learn which products may not be safe.”<sup>21</sup> Given the size of the cosmetics industry, the diversity of the products included, and the FDA’s comparatively limited funding, this can be a daunting task and places a lot of power into the hands of brands, manufacturers, and retailers.

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<sup>18</sup> "Counterfeit Cosmetics: Fake Beauty, Real ... - Duane Morris LLP." Accessed March 10, 2020. [https://www.duanemorris.com/articles/counterfeit\\_cosmetics\\_fake\\_beauty\\_real\\_danger\\_0418.html](https://www.duanemorris.com/articles/counterfeit_cosmetics_fake_beauty_real_danger_0418.html).

<sup>19</sup> Ibid.

<sup>20</sup> Ibid.

<sup>21</sup> Ibid.

## B. European Union Cosmetics Regulations

Comparatively, the European Union (EU) has more stringent laws for cosmetics than the United States. The EU follows a hazard- based, precautionary approach that protects consumers by acknowledging that “chemicals linked to cancer and birth defects simply don’t belong in cosmetics.”<sup>22</sup> The EU Cosmetics Directive was adopted in 2003 and revised most recently in 2013. Whereas the U.S. FDA has restricted or banned eleven chemicals from cosmetics, the EU law bans 1,328 chemicals from cosmetics “that are known or suspected to cause cancer, genetic mutation, reproductive harm, or birth defects.”<sup>23</sup> Further unlike the United States, the EU law also requires “pre-market safety assessments of cosmetics, mandatory registration of cosmetic products, government authorization for the use of nanomaterials and prohibits animal testing for cosmetic purposes.”<sup>24</sup>

In 2019, Senators Dianne Feinstein of California and Susan Collins of Maine introduced the *Personal Care Safety Act*, a bill which aims to protect consumer health and strengthen the FDA’s regulation of ingredients in personal care products. The bill would require the FDA to “evaluate a minimum of five ingredients found in personal care products per year to determine their safety and appropriate use.”<sup>25</sup> The review process would require the FDA to provide clear guidelines to companies about whether ingredients should continue to be used or if consumer warnings are needed. Some other stand-out provisions of the bill would require “complete label information to be posted online, including ingredients and product warnings,” and “require manufacturers to register annually with the FDA and provide the agency with information on the

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<sup>22</sup>“International Laws - Safe Cosmetics.” Accessed March 15, 2020. <http://www.safecosmetics.org/get-the-facts/regulations/international-laws/>.

<sup>23</sup> Ibid.

<sup>24</sup> Ibid.

<sup>25</sup> “Feinstein, Collins Introduce Bill to Strengthen Oversight of ....” Accessed March 15, 2020. <https://www.feinstein.senate.gov/public/index.cfm/2019/3/feinstein-collins-introduce-bill-to-strengthen-oversight-of-personal-care-products>.



ingredients used in their personal care products.”<sup>26</sup> This bill, though a step in the right direction, was referred by the Senate to the Committee on Health, Education, Labor, and Pensions in March 2019 and no action has followed suit.

### III. Using Blockchain to Solve the Problem

The risks to public health that are presented by the lack of regulation of cosmetics production are wide- spanning. Observing these trends and issues that need to be resolved, the beauty industry is becoming increasingly tech-enabled. Though an unexpected pairing, blockchain is starting to be used by retailers in the beauty industry “because the technology itself is open, incorruptible and decentralized - allowing the most honest and trustworthy way to verify the information from the brand and its supply chain to pass to the end customer.”<sup>27</sup> Blockchain technology provides an answer for the beauty industry's problems by being a reliable method for verifying information from a brand and its supply chain. Through Cult Beauty’s partnership with tech-platform Provenance, blockchain is being used to provide total proof-point transparency for shoppers for the first time in beauty history.

Cult Beauty is an online retailer that aims to serve as “the insider’s guide to the world’s best beauty products” encompassing products from skin care to makeup.<sup>28</sup> It is disrupting the traditional beauty industry model by “bringing proven information into their retail ecosystem” in order to enable “brands to surface and prove information in a consistent way- bringing a level of integrity that doesn’t exist with the typical ‘marketing speak’ that dominates beauty.”<sup>29</sup> The

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<sup>26</sup> Ibid.

<sup>27</sup> "Cult Beauty pioneers transparency in beauty ... - Provenance." Accessed February 24, 2020. <https://www.provenance.org/news/movement/cult-beauty-pioneers-transparency-in-beauty-with-the-provenance-blockchain-platform>.

<sup>28</sup> "Cult Beauty | Crunchbase." Accessed March 20, 2020. <https://www.crunchbase.com/organization/cult-beauty>.

<sup>29</sup>"Cult Beauty pioneers transparency in beauty ... - Provenance." Accessed February 24, 2020. <https://www.provenance.org/news/movement/cult-beauty-pioneers-transparency-in-beauty-with-the-provenance-blockchain-platform>.

partnership between Cult Beauty and Provenance is game-changing because Cult Beauty is actually the first use-case of blockchain for a beauty retailer and the first to verify information in the beauty industry. This is something that has never before been done in retail and an entirely new approach to truthful information “rather than a retailer curating facts from the brand.”<sup>30</sup> No other beauty retailers are currently requiring the same level of integrity from brands claiming that “the producer is independent, small, and using a nice ingredient.”<sup>31</sup> Not every product sold by Cult Beauty is verified using Provenance, but Cult Beauty is taking steps in the right direction by working towards providing transparency for shoppers who want to know about what’s going into their products.

Provenance is a London-based platform “powered by blockchain and open data” that “gathers and shares key product information and journeys in a way that’s secure, trustworthy and accessible.”<sup>32</sup> Its mission aims to empower “brands to take steps towards greater transparency” through its software and to “empower people to change the way the global economy works.”<sup>33</sup> Technically speaking, Provenance has created a blockchain-based software solution called “Proof Points,” by which “information is presented with robust-multi-layered evidence that’s easy to validate and is designed to be as clear as possible for shoppers.”<sup>34</sup> Proof Points is integrated into the Cult Beauty shop and accessible to all those who visit the retailer’s website. There are two kinds of proof points, stated and verified. Each proof point is backed by evidence which is provided by the brand making the claim, but the proof points that are verified (marked

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<sup>30</sup> "Cult Beauty pioneers transparency in beauty ... - Provenance." Accessed February 24, 2020. <https://www.provenance.org/news/movement/cult-beauty-pioneers-transparency-in-beauty-with-the-provenance-blockchain-platform>.

<sup>31</sup> Ibid.

<sup>32</sup> "Provenance." Accessed March 17, 2020. <https://www.provenance.org/>.

<sup>33</sup> Ibid.

<sup>34</sup> "Cult Beauty pioneers transparency in beauty ... - Provenance." Accessed February 24, 2020. <https://www.provenance.org/news/movement/cult-beauty-pioneers-transparency-in-beauty-with-the-provenance-blockchain-platform>.

with a green tick on Cult Beauty’s site) have “further been confirmed by an independent third party.”<sup>35</sup> For something like the cruelty-free mark certification, this can even involve laboratories sharing chemical analysis, NGOs, and consumer research bodies. In each case of proof points, the data provided reveals more about the people and process behind the product, something end-customers rarely get to see. These verified proof points are essentially tamper-proof, meaning a claim cannot be altered or erased once it has been made.

On the Cult Beauty website, verified products have a checkmark next to them and different tabs appear in the product’s description to notify a user which proof points it has. Proof points can indicate if a product is vegan, cruelty-free, or made with recyclable packaging. Users can then select which proof point they’d like to view and click on the tabs to see the blockchain record of the product. Doing so leads users to Provenance’s Proof Point Inspector which provides them with a history of all blockchain events related to the proof point, who the issuer of the proof point is, the time range for which the verification is valid, and actual blockchain data that is notarized onto the Ethereum blockchain.<sup>36</sup> The process is made simple and easy to use for anyone who wishes to visit the Cult Beauty website. Consumers can rely on the green checkmarks and have further proof of verification through the proof points when deciding which products are the safest for them, all through the use of blockchain.

#### IV. Downsides/Potential Hurdles

Cult Beauty’s disruption of the traditional beauty industry model involving placing verified information into consumers’ hands on its platform may seem far-fetched and unconvincing to the retailers and brands booming in business just employing the traditional

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<sup>35</sup> Ibid.

<sup>36</sup> "MARA | Evening Primrose + Green Tea Algae Retinol Face Oil ...." Accessed April 10, 2020. <https://www.cultbeauty.co.uk/mara-evening-primrose-green-tea-algae-retinol-face-oil.html>.

model. However, beauty giant Sephora, which retails a wide range of beauty products from cosmetics to skincare items, has caught on to the consumer demand for products that are free of controversial ingredients. Although not employing blockchain (yet), Sephora has launched a “Clean at Sephora” category on its site for which Sephora has collaborated with its “brands, industry experts, external council” to highlight products without ingredients which have been vetoed “due to a variety of concerns ranging from health to the environment.”<sup>37</sup> As of late 2018, Sephora already had fifty brands signed on for the category, which has its own landing page on the website and designated in-store area in shops nationwide. For a powerhouse like Sephora, which generated online net sales close to one billion dollars in 2018, clean beauty seems to be a smart investment and a look into the direction the retail leader is moving in.<sup>38</sup>

For companies that aren’t willing to join the clean beauty movement, it will not be surprising if they get left behind as natural beauty brands thrive. Gregg Renfrew, the founder of Beautycounter, a cosmetics and skin care e-retailer that tries to educate consumers about the potential toxicity of certain products, says, “The space for cleaner, safer, better beauty has grown and is only continuing to grow...in fact, natural and safer brands are outselling their traditional competitors by two and threefold.”<sup>39</sup> Nordstrom is “opening dedicated natural beauty sections in 46 of its locations,” Target has “announced plans to expand its natural beauty selection, thanks to a double-digit percentage lift in sales last year,” and CVS is reacting to customer feedback on promising to “remove chemical ingredients such as parabens and phthalates from approximately

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<sup>37</sup> "New "Clean at Sephora" Category Makes it Easy to Filter Out ...." Accessed March 20, 2020. <https://www.allure.com/story/clean-at-sephora-category-filter-by-ingredient>.

<sup>38</sup> "sephora.com store analysis 2019 | Statista." Accessed March 20, 2020. <https://www.statista.com/study/65904/sephoracom-store-analysis/>.

<sup>39</sup> "What's Driving The Billion-Dollar Natural Beauty Movement?." Accessed March 20, 2020. <https://www.fastcompany.com/3068710/whats-driving-the-billion-dollar-natural-beauty-movement>.

600 of it in-house brands' personal care products.”<sup>40</sup> The clean beauty revolution is here and whichever brands and retailers don't get on board will be left behind. Blockchain provides the insightful information that consumers are demanding and responding positively to when received.

## V. Conclusion

Blockchain is disrupting the beauty industry's traditional model which allows manufacturers, retailers, and beauty brands to get away with misleading and risky practices. Blockchain solves the issue consumers face when trying to decipher what it is that they are putting on their bodies because that is just as important to their health as what they are putting in their bodies. Through brands and retailers using blockchain verification, consumers can be provided reliable information about which ingredients are contained in products and any concerns regarding unintended consequences of using certain products can also be addressed. Cult Beauty is paving the way for brands and retailers to follow suit if they want to stay competitive in the growing clean beauty market.

Low standards of regulations for cosmetics allow wide room for things to go wrong, anywhere from production with hazardous chemicals to the sale of counterfeit cosmetics. The United States needs stronger regulations for personal care products, but until that happens, brands and retailers can take advantage of the opportunity to grow their customer base and sales by investing in blockchain systems that provide the utmost level of transparency to consumers. Consumers can rely on systems like Provenance's proof points to reassure them that what they're being sold is verified. Both sides, sellers and buyers, can benefit from blockchain and its use in the beauty industry.

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<sup>40</sup> Ibid.