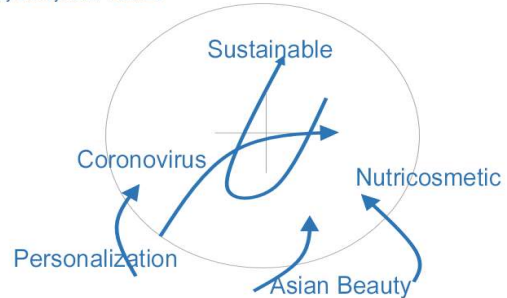




Highlighted Emerging Themes
Beauty Ecosystem: 4Q2020



Beauty Ecosystem Market Themes

Market insights enabled by unstructured big data and artificial intelligence

Quarterly Report: 4Q 2020

January 7, 2021



Executive Summary

256,000 unstructured news/blog signals were collected and analyzed over 2020. Public articles were the primary sources of this unstructured big data. Natural Language Processing (NLP) and Artificial Intelligence (AI) were leveraged by Discovery Patterns analysts to discover and track emerging market themes. Goals of these discoveries were the creation early market advantages and the early warning of competitive risks.

56 specific categorized themes were tracked and analyzed in a continuous process. [See categorized tracked themes below. Other themes were tracked even though not specifically highlighted in Beauty Radar or INN channels.] As part of these categorized themes are hundreds of embedded themes that do not yet qualify for top level categorization. NLP and AI have been assisting in this theme discovery process.

Here are the overarching themes of 2020

- COVID and pandemic theme signals were the predominant themes over 2020. These themes peaked and are now dissipating in the Beauty Ecosystem.
- The COVID pandemic initiated many new business models and product developments as part of the “new normal” of health safety.
- Total Dermatology signals were consistent over 2020.
- Product developments in themes like Sustainability and Personalization continued in strength in spite of the market preoccupation with COVID themes.
- Total Technology related signals have been rather consistent throughout 2020.
- Coffee as an ingredient emerged as an early theme, worthy of early tracking.
- Total Asian beauty signals have been on a slight growing trend.

Here are emerging or ongoing themes that are highlighted in this 4Q summary:

- Coronavirus (pandemic, COVID-19)
- COVID + Masks
- Makeup Free
- Sustainable
- Personalization
- CBD
- Probiotic Skincare
- Total Dermatology Signals
- Nutricosmetic Themes
- Coffee Ingredient Theme
- Total Technology Signals
- Total Asian Beauty Signals

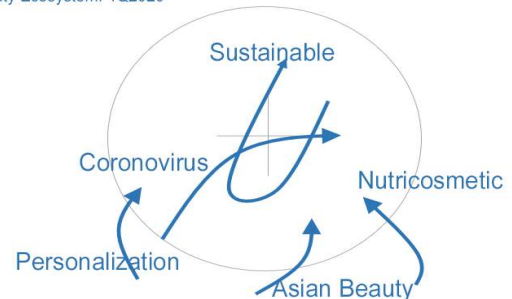
All of these above themes/signals were deemed worthy of highlight in this quarterly analysis.



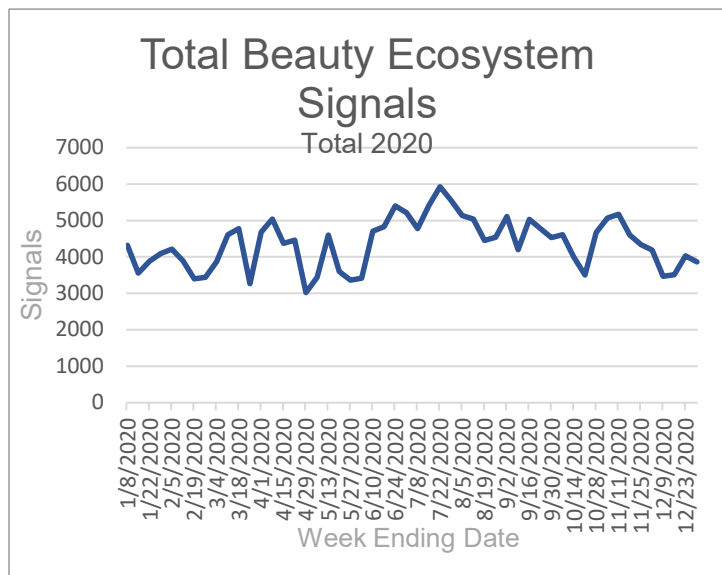
AI Driven Beauty Ecosystem Theme Radar

A simple explanation of Theme Radar discoveries is that emerging themes become highlighted due to their emergence and movement toward the center of the radar over time. Tens of thousands of monthly market signals, continually connected in competitively relevant context, enable special AI engines to animate potentially interesting themes.

Highlighted Emerging Themes
Beauty Ecosystem: 4Q2020



During 4Q of 2020 the once overarching theme of COVID Pandemic began to wane in market signals. Nevertheless, it maintained its central location on the Beauty Ecosystem/Radar. The themes of Sustainability and Personalization maintained high relevancy in the shadow of COVID themes. Nutricosmetic theme started to grow in overall ecosystem relevance. CBD, Probiotic and COVID Masks showed significant market signal energy dissipation. Total Dermatology, Total Technology, Coffee Ingredient, and Total Asian Beauty Themes were tracked in 4Q analysis and are analyzed below. Over 61,000 article signals were added to NLP and AI analysis engines over the fourth quarter of 2020. The graph above shows the weekly article signals per week.



Total Dermatology, Total Technology, Coffee Ingredient, and Total Asian Beauty Themes were tracked in 4Q analysis and are analyzed below. Over 61,000 article signals were added to NLP and AI analysis engines over the fourth quarter of 2020. The graph above shows the weekly article signals per week.

This theme discovery process is not deterministic, rather it is tool to highlight potentials that deserve analyst assessment out of a universe of thousands of signals and hundreds of potential themes.



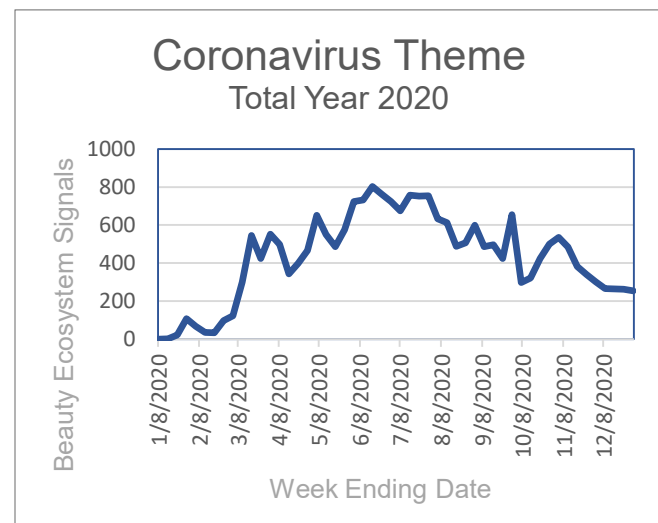
Featured Themes and Market Signals Over Year of 2020

Coronavirus Theme:

The pandemic caused by the coronavirus is the most impactful theme of 2020 across every worldwide ecosystem. The Beauty Ecosystem is no exception. The graph at right shows the acceleration of coronavirus signals from March through June of 2020 in the context of the Beauty Ecosystem. Then in July this theme peaks and starts to slide in signal count. Nevertheless, the COVID theme continues to be central among all beauty themes into the fourth quarter.

As a result of the pandemic, many beauty ecosystem market events were either cancelled, postponed or responsive to the pandemic. New beauty products and business models started to emerge in response to the “new normal” of health face masks, quarantines, and social distancing.

Here are example article market signals as part of the coronavirus theme:



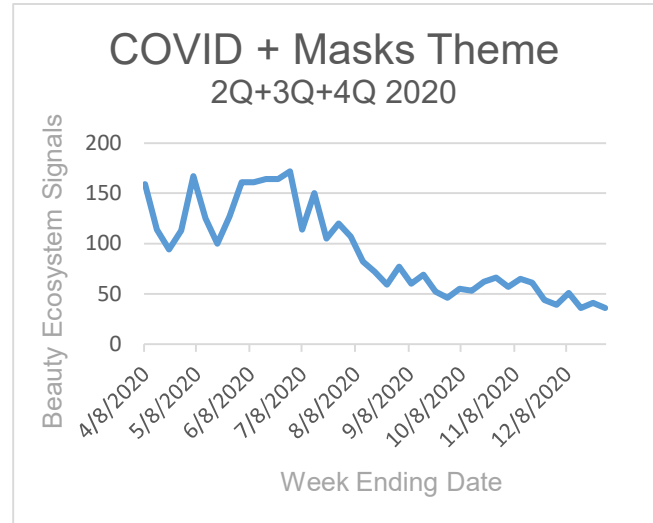
- Pandemic Chips at Beauty Retail's Bricks-and-Mortar Stronghold (Wall Street Journal)
- L'Oréal is banking on influencers and try-on technology to cash in on online sales - and it's made up for half its pandemic losses (Business Insider)
- Trending in Japan: Skin care and microbiome interest soaring amid COVID-19 (CosmeticsDesign-Asia.com)
- Unilever to introduce mouthwash formulation in India, claims to reduce 99.9% corona after rinsing (The Hindu)
- What pandemic? LG Household & Health Care reports record-breaking Q3 revenue (globalcosmeticsnews)
- Cosmetics Company Announces Virtual Makeup for Video Calls (Futurism)
- Ulta Beauty strikes deal to open hundreds of shops at Target stores (CNBC)
- L'Oreal CEO, Agon Sees a Revival of the Makeup Industry After the Pandemic (Bloomberg)
- COVID-19 skin treatments remain a 'little explored area', say Italian dermatologists (CosmeticsDesign-Europe.com)



COVID + Mask Theme:

The theme about masks plus beauty has emerged and peaked. This theme spawned many new product developments. Of course, this theme was only initiated as a result of the pandemic breakout in early 2020.

- The Virus Has Stolen Your Face From Me (New York Times)
- Face masks that can be disinfected by daylight exposure (India TV)
- LG Starts to Roll Out Its Puricare Face Mask in Select Markets (Beebom)
- Researchers Work to Develop Face Mask that Deactivates COVID-19 (Laboratory Equipment)
- Dr. Dennis Gross Gives Tips to Identify Maskne vs Maskitis (PR Newswire)

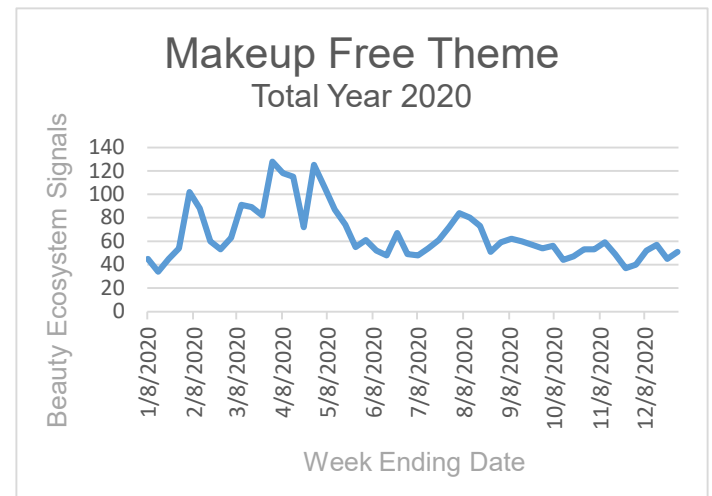


Makeup Free Theme:

This theme actually emerged early in 1Q 2020, but has decelerated in 2Q, 3Q and 4Q, and exited the Beauty Ecosystem radar. In the parlance of marketing, this theme was “overcome by events.” Limited or no makeup changed from a personal beauty choice to a reaction of the reality of being quarantined in one’s home.

Here are some example articles of the Makeup Free theme:

- Makeup Without the Markup (The New York Times)
- The Ultimate No-Makeup Makeup Look for Men (Makeup.com)
- Age-defying Naomi Watts, 52, goes makeup free and shares skincare (msnNOW)
- Go one step up from the no-makeup look (The Guardian)

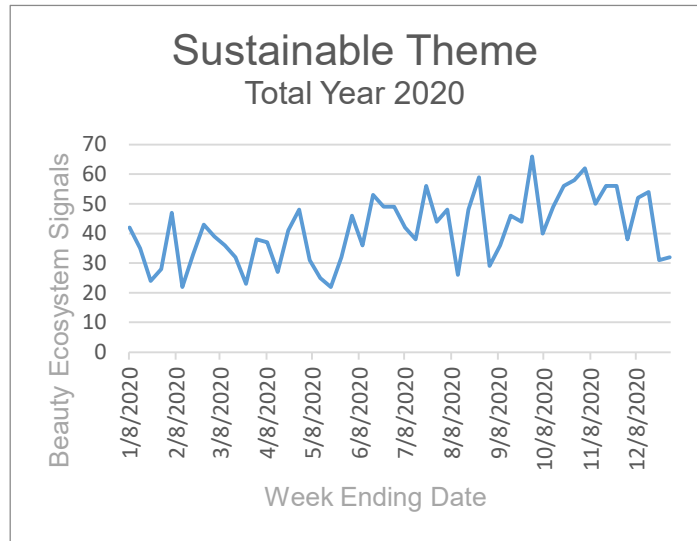




Sustainable Theme:

The sustainable theme started in 2019 and continued into 2020. The idea of sustainability touches cosmetic packaging as well as the ingredients of the beauty products. Sustainability themes were not suppressed by COVID themes.

An interesting aspect of the AI analytics is that theme emergence is more than the simple counting of article signals. Rather theme discovery also requires connectivity among other important ecosystem themes. Increasing connectivity pulls interesting themes toward the center of theme radars.

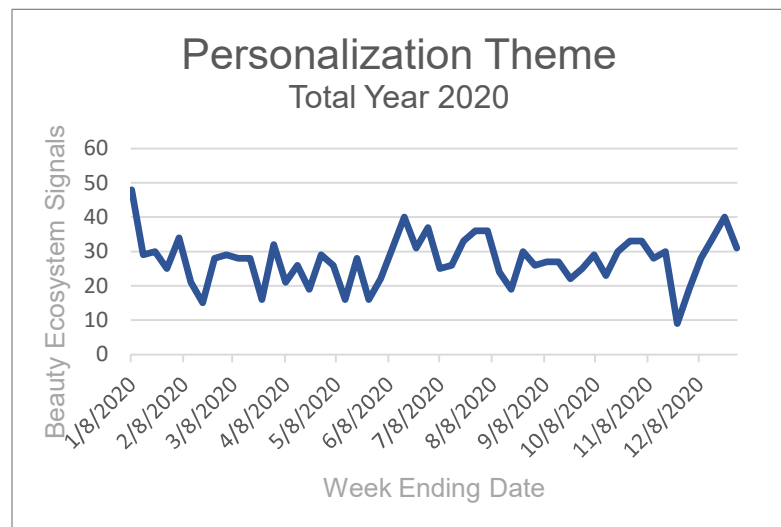


Here are some example articles defining the Sustainable theme:

- Beauty brand's eco-packaging does away with those wasteful bubble wraps (Philippine Star)
- Beauty Brand Execs Speak on the Challenges of Water Usage (Beauty Packaging Magazine)
- Silica is the Most Eco-Friendly Substitute for Plastic Microbeads Used in Cosmetics (AZoM)
- Thrill of the refill: beauty's more sustainable side (Financial Times)

Personalization Theme:

Like Sustainable themes, Personalization themes survived the onslaught of COVID themes. This personalization theme is being enabled by technology including devices, apps and AI, in conjunction with innovative marketing channels and direct to consumer delivery.



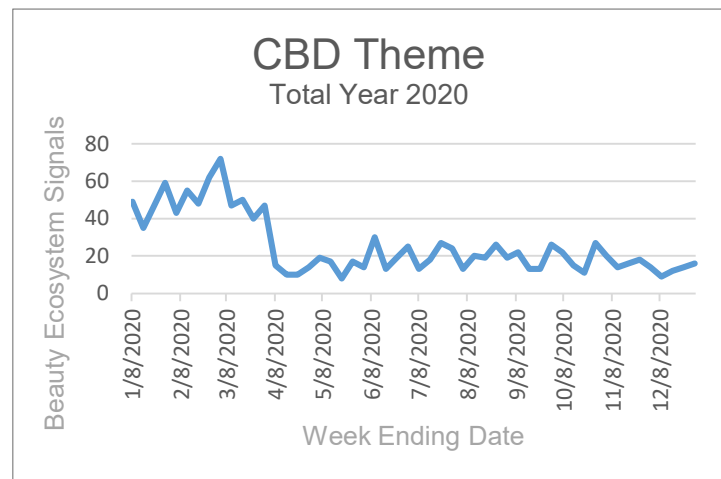


- If the Future of Skincare Is AI-Generated Serums I'll Pass (Gizmodo)
- This Clean Beauty Brand Is Offering Personalized Skincare Duos At a Major Discount (InStyle)
- ABBi customizes skincare based on a selfie (Premium beauty)
- Lips Carpenter offers skincare products that are personalised, natural and sustainable (Options The Edge)
- True to colour: Dermatologist sees stronger scientific relevance for personalised make-up rather ... (CosmeticsDesign-Asia.com)

CBD Theme:

The CBD theme was another theme that was deemphasized by the COVID themes over 2Q, 3Q and 4Q 2020.

- Nordic Cosmetics Top-Selling Foreign CBD Brand in China (GlobeNewswire)
- Chinese group launches line of CBD cosmetics (HempToday)
- Thailand to allow use of cannabis in cosmetic products (GlobalCosmeticsNews)
- Use of cannabis, hemp to be allowed in food, cosmetics (Bangkok Post)



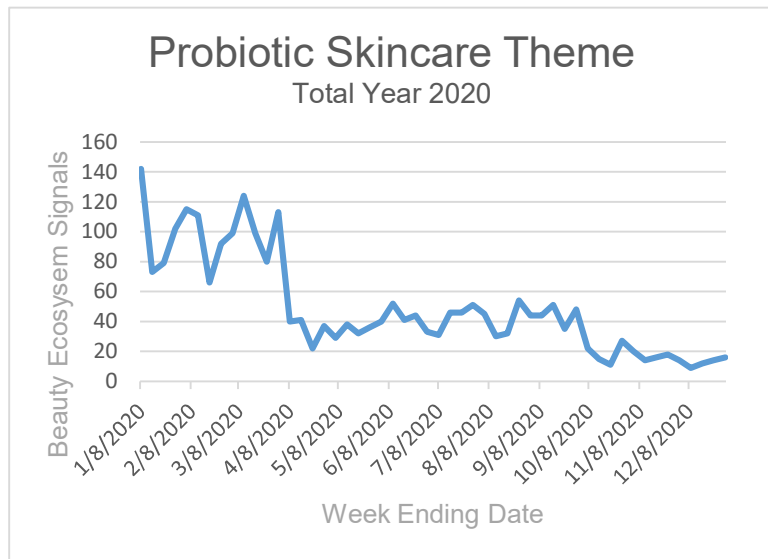
Note: Once a theme might be established in an active market, market signal counts may actually decrease as journalists and bloggers cease discovering interesting news on which to publish.



Probiotic Skincare Theme:

The Probiotic Skincare theme encompasses the use of “friendly” bacteria to enhance skincare. This theme is associated with microbiome cleaning products and probiotic food supplements.

Like the CBD theme, this theme is interesting because it was already established and maintained consistent signals throughout 1Q 2020. Then COVID themes hit, creating a significant deceleration of Probiotic signals that weakened these themes among other themes in the Beauty Ecosystem into 2Q and 4Q 2020.

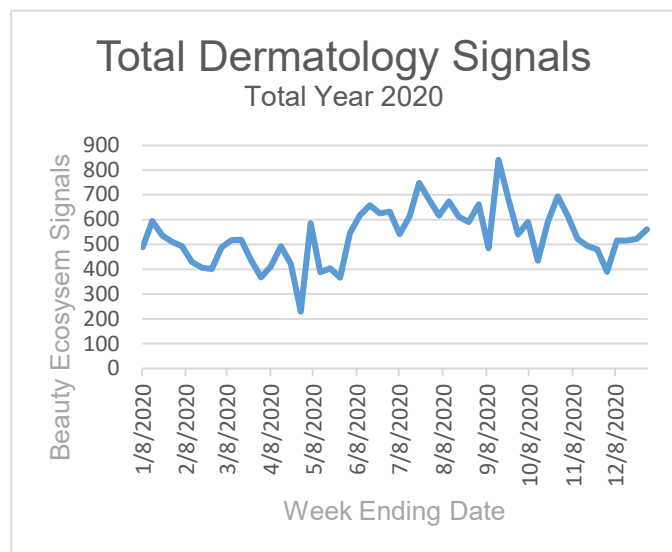


- L'Oral embraces good bacteria with Microcos license (GlobalCosmeticsNews)IDTechEx Examines Personalized Skin Care in New Research Report on Skin Sensors (PR Newswire UK)
- Trending in Japan: Skin care and microbiome interest soaring amid COVID-19 (CosmeticsDesign-Asia.com)
- The Woman Adapting The Microbiome Science Of Gut Health To Skincare (Forbes)

Total Dermatology Signals:

Dermatology signals are defined by dermatologist, aesthetician or clinical plus skin or beauty keywords. Scores of dermatology competitors are also included in these signals. As can be seen in this chart, these signals were significant and demonstrated a steady ecosystem relevance over 2020.

- Dermologica Adds Sustainable Packaging (Happy)



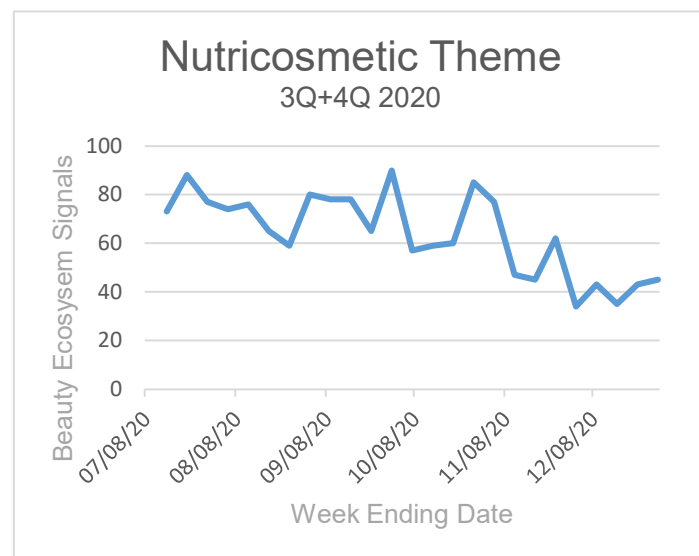


- These are the high-tech skincare tools that a dermatologist recommends you use at home (Vogue India)
- Over 45000 Sephora Shoppers Love This 'Cloud-Like' Moisturizer That's 50% Off Today (Shape Magazine)
- A dermatologist and a cosmetic chemist debunk 19 skin-care myths (Business Insider)
- First-Time Human Study Shows Reversal in Biology of Aging - Telomere Shortening and ... (PRNewswire)
- Why One Derm Thinks This Skin-Care Brand Is a Game-Changer for Dry Skin (NewBeauty Magazine)

Nutricosmetic Themes:

Early Nutricosmetic themes were discovered and active Beauty Ecosystem Radar tracking was initiated during late 2Q 2020.

Throughout 4Q these theme signals did maintain a steady weekly volume decline, while maintaining an overall ecosystem relevance. This maintenance in theme relevance is possible without increased signal volumes when the signals become better connected to other themes.



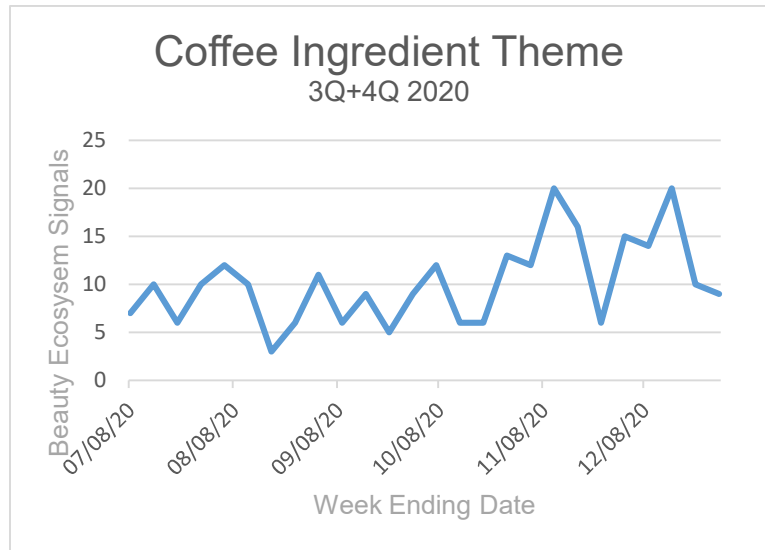
- Roquette Beaut opens a phygital Expertise Centre near Paris (Premium beauty)
- Development of nutraceuticals to enhance the capacity of the immune system (IRIS Universit degli Studi di Napoli Federico II - Unina)
- Beauty-Boosting Beverages Market is Booming Worldwide | Juice Generation, Bella Berry, Vital ... (openPR)
- New research demonstrates immune benefits of jellyfish collagen, says Certified Nutraceuticals (Nutritional Outlook)
- Sirio Launches New Smart Factory in China (Process Worldwide)



Coffee Ingredient Theme:

New ingredients will always be the foundation of cosmetic themes. Some ingredients start to exhibit early theme behaviors worthy of tracking. Most others do not. At this present time, over one hundred specific ingredients and ingredient potentials are tracked in the Discovery Patterns network.

Coffee as an ingredient theme was highlighted by our artificial intelligence and natural language processing engines. Although Coffee is not yet actively tracked on the Beauty radar, it is being tracked within supporting NLP channels. Graph here is providing the weekly market signal counts of Coffee + cosmetics/beauty themes.

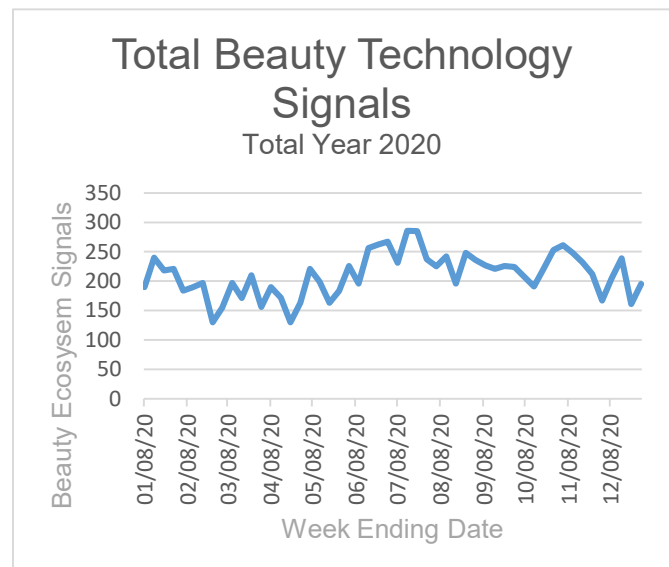


- Here's how coffee can fix your skin problems (Times of India)
- Offspring Inc and AirX have partnered to offer biodegradable coffee mask (Fabrics)
- International Men's Day: Skincare combos for men; get great skin in minutes (Times of India)
- Coffee Beauty Products Market May See a Big Move | P&G, Estee Lauder, Avon (openPR)

Total Technology Signals:

These signals are about early discoveries of devices and software that might be gaining traction within the Beauty Ecosystem. Example technology related themes at this time include artificial intelligence, augmented reality, ultrasound, "Ion Enhancer", handhelds, printers, appliances, apps, iPhones, Androids, smartphones, mirrors, "Micro-Needling", microcurrent, "blue light", LED's, airbrushes, etc.

The Total Technology Signals graph over 2020 indicates that while these signals





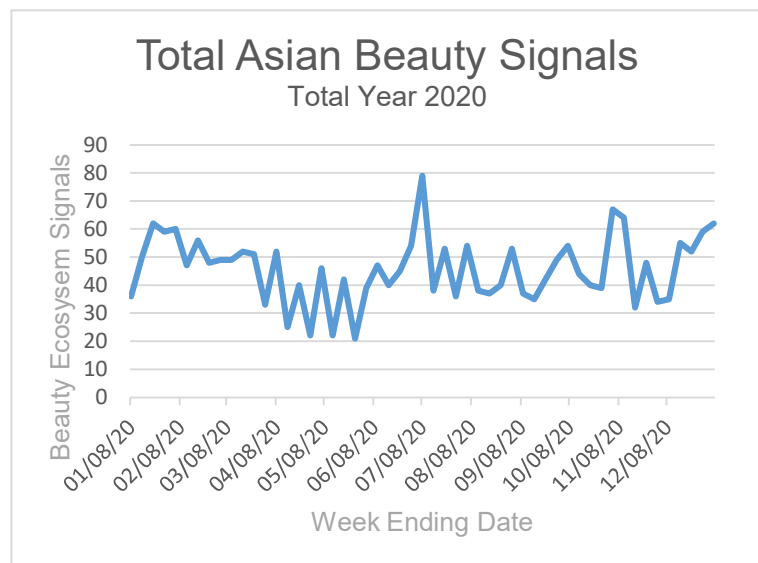
are voluminous and relatively consistent, they are not becoming the dominant themes within the Beauty Ecosystem. It is also interesting to note that Pandemic themes did not greatly disrupt the Total Technology themes.

- This New Makeup Printer Is Like Photoshop for Dark Spots (HarpersBAZAAR.com)
- Amazon's big Foreo skin cleansing device sale is here (NEWS.com.au)
- Isetan app brings in-store shopping experience online amid pandemic (Japan Times)
- Skincare Devices Market to Score Past US\$ 25533.7 Million Valuation by 2027, Owing to ... (Medgadget)
- Japan's AGC brings AI to makeup routine with smart mirror (Nikkei Asia)
- LG Electronics unveils eye skin care device in S. Korea (The Korea Herald)

Total Asian Beauty Signals:

Asian Beauty Signals are composed of articles from topics about Korea, Japan, China, India, Malaysia, Indonesia, Philippines, Vietnam, etc

Over 2020 these signals did experience a COVID dip and then recovered. There was a spike in July. This spike is driven by China's decree against animal testing.



- This Is The Korean Skincare Gadget Everyone Should Have On Their Wish List (British Vogue)
- Japanese Beauty Brands See Popularity Skyrocket Online in China during ... (Yahoo Finance)
- Why Lakm's Success Story Is The Perfect Inspiration For 'Make In India' (The Better India)
- In China men's skincare boom, start-ups & investors seek rich glow (Business Standard)
- Indian cosmetics startup Plum nets \$14.9m in Faering Capital-led round (Tech in Asia)
- China's Tmall Embraces US-Made Hemp Beauty Line Hemptathy (Forbes)
- This Vietnamese skincare technique involves setting your face on fire (Yahoo Sports)
- Unilever to introduce mouthwash formulation in India, claims to reduce 99.9% corona after rinsing (The Hindu)



Categorized Tracked Themes

Here are the Beauty Ecosystem themes that are now specifically tracked either with a dedicated NLP collection channel and/or within a theme radar:

- Blemishes
- CBDSkincare
- Cleansing
- Competitors Derm Total
- Competitors Probiotic
- Competitors Total
- Counterfeits
- Devices
- EyesYounger
- FaceTexture
- FaceYounger
- Generic Cosmetics 01
- Generic Cosmetics 02
- Ingredients 01
- Ingredients 02
- Investment
- MaleSkinCare
- Marketing Channels 01
- Marketing Channels 02
- MedicatedSkinCare
- Natural
- Packaging
- Personalization
- PetSkinCare
- PollutionCare
- ProbioticSkin
- RegionAsia
- RegionROW
- Regulation
- Research
- Research Scopus
- Segmentation
- SkinYounger
- Source Direct Feeds
- Supplements
- Tech Innovations 01
- Tech Innovations 02
- Tech Innovations 03
- Testing
- Trends
- Vegan
- Hyaluronic Acid
- Toxins Potential 1-4
- Makeup Free
- Sustainable
- Coronavirus
- Nutricosmetics

It should be noted that hundreds of other potential themes are embedded in these categorized themes. For example, Coffee is now part of the Natural theme. As Coffee emerged as a natural ingredient, it was upgraded to active tracking, and potentially plotted on the Beauty Ecosystem Theme Radar.