

The science of beauty

How digital devices can unlock customized personal care

Engaging consumers on a personal level to build lasting emotional connections is an ongoing quest for personal care brands. Consumer phenotyping – analysis of individuals' personal characteristics – is emerging as a potential game-changer here. Brands that harness and leverage phenotype data via digital technologies are at a competitive advantage.

For many personal care brands, the traditional interface with consumers is frustratingly detached. In general, product selection is rooted in a trial-and-error approach, with consumers remaining invisible to the brand at the point of sale.

When shopping for skincare or haircare products, consumers typically self-diagnose at the point of purchase. They have to consider their own characteristics then decide between various categories, such as 'normal' or 'oily'; 'damaged' or 'flyaway'. Much of the time they misdiagnose and are forced to switch between products before finally settling on one that is just about good enough. Yet there is another way. Digital diagnostic devices can open the door to better, more personalized dialogue between brand and consumer. They can also unlock opportunities for new product development that is strategically aligned with consumer needs.

→ Brand activation: hi-tech devices

The digital age has escalated consumer demand for personalization. But traditionally, it's not been



easy for personal care and beauty brands to offer large-scale customization in a cost-effective way. This is set to change with the emergence of technologies that allow consumers to diagnose their phenotypes.

Digital diagnostic devices used instore or at home (for instance via a smartphone) can help create a closer bond between brands and consumers. They collect key information surrounding an individual's personal characteristics, from age, ethnicity and hair colour to data elicited from visual or physical evaluation of skin, hair or nails. The data enters a cloud-based system for analysis and a diagnostic algorithm is used to pinpoint the product that best suits the individual's needs.

It's an approach that delivers multiple benefits for brand and consumer alike. Deeper personal insights enable consumer need to be married with product type to customize the experience. In some cases, it's also possible to track changes over time and provide evidence-led proof of efficacy. Crucially, diagnostic approaches of this type create one-to-one dialogue between the brand

and an individual. This generates a closer customer touchpoint for the brand and a more personal experience for the consumer. It enables consumers to be directed towards appropriate products to enhance their beauty regime. And with some premium products, it can involve the provision of truly bespoke formulations.



Benefits include better brand engagement, loyalty and advocacy, driving repeat purchase and peer recommendation. The brand also receives valuable consumer data that can inform ongoing product development and marketing strategies.

So how do brands go about developing these diagnostic devices? This paper explores technical considerations and critical success factors.

→ Brains and beauty

Developing a diagnostic device that is sophisticated enough to add real value to the consumer and the brand is inherently complex. Yet the user experience needs to be worthwhile, compelling and enjoyable. There are five key factors to consider:

1. Getting personal

The first step is to define exactly what to measure and how to capture it. For a haircare product, the phenotype characteristic might be hair texture, thickness, moisture or porosity. A simple online questionnaire could be used to capture most aspects of this attribute. However, to heighten the consumer experience, the individual's hair itself could be analysed. To measure 'hair shine' a photographic image might be adequate. But for maximum benefit, a strand of hair could be scientifically assessed to provide a robust diagnosis of hair type and condition.

2. Anywhere, anyplace, anytime

For diagnosis to be meaningful, it's important that the device provides accurate, consistent and reliable readings whenever and wherever it's used.

This is relatively straightforward for devices that will be used instore, especially if trained sales representatives or beauty consultants operate them. However, it becomes more complex if the diagnostic tool is rooted in a smartphone application activated by the consumer. If the application doesn't work at the first attempt, consumers will quickly lose interest and associate a negative experience with the brand. It must be easy to set-up and operate, and the underlying technology must work seamlessly across all platforms and operating systems.

3. Keep it chic

As with any brand activation tool, the end-to-end user experience needs to be positive, enjoyable and valuable.

For at-home devices, ease-of-use is a major factor which needs to influence design and core functionality. Considerations might include whether the device should be voice-activated or screen-based. Does it require a specific set-up and how can this be conveyed so it isn't obstructive or off-putting? Every aspect of the language and imagery should be geared towards enhancing the procedure and boosting consumer engagement with the brand. Demographics of the target market including age, life stage and cultural context all have a bearing and it may be advisable to create tailored versions of the user interface.



Devices used instore can be more elaborate than those used at home. The cost-per-device threshold is usually higher, and the possibility of user training allows for more sophisticated methods. The technique for gathering analytic samples can be clinical, but must not feel invasive or scary. And while the device will invariably be highly engineered with complex technologies, its design needs to be elegant, funky or cool – whatever suits the style aspirations of the target market.

4. Know your audience

There are two main audiences to consider when analysing phenotype data and presenting the results.

Firstly, from a consumer perspective, the outcome needs to be part of the brand experience and expressed in a compelling way. It needs to be provided quickly and clearly, whether the device is used at home or instore. Results should be presented in a language and format that is easy to grasp. Indices for features such as 'hair shine' or 'skin luminescence' could be conveyed via simple graphics and engaging language. The consumer should be left feeling well-informed and confident that they know what's needed to improve their beauty regime. Whatever the diagnosis and recommendation, the overall experience should be positive, creating an emotional connection between brand and consumer.

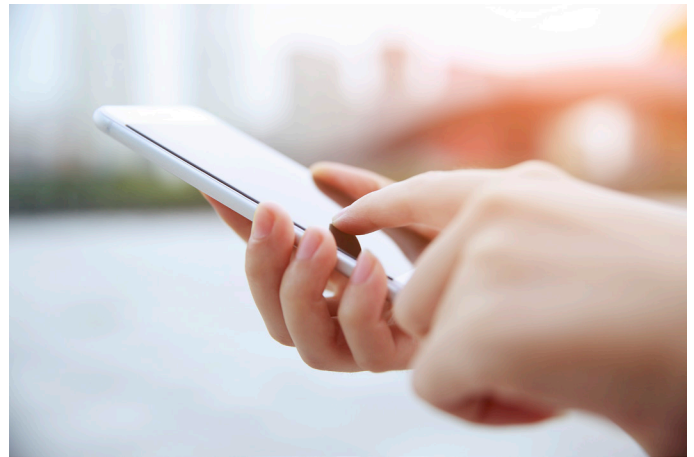


Behind the scenes, the raw data will need more complex segmentation to deliver value to the brand organisation. Variables such as hair structure or senescence can be assessed in more detail to provide detailed insights for enhanced consumer profiling. And various departments - R&D, consumer insight, sales and marketing -

need the ability to drill down into specific details that are most relevant to their role.

5. Getting better all the time

Mapping phenotype differences between people with more granularity enables the development of more precisely targeted products to build brand loyalty. Use of low-cost consumer diagnostic devices, perhaps as a magazine insert, can open new channels of communication with consumers beyond the point of sale. As well as facilitating meaningful interactions to drive sales in the short term, these new communication channels can deliver significant long term benefits.



Valuable insights from phenotyping smart app data can be leveraged by R&D teams to spark an accelerated cycle of well-informed product and service improvements. What's more, brands have access to a network of engaged consumers for rapid trials of new products and formulations. The open-ended potential of smartphone-based activity makes it easier than ever to obtain representative samples in specific market segments.

Big data also enables sales and marketing activity to become more precisely targeted for resonance with specific customer groups. And the approach unlocks new capabilities to build marketing portals direct to the consumer. Over time, it's possible to have a suite of apps working together to cover everything from hair (shine, colour, damage) and skin to nailcare, footcare and deo. This enables the creation of a full, highly-detailed picture of the individual. And it puts brands in a powerful position to build the ultimate customer relationship.

HAIR PHENOTYPING: DOVE ADVANCED DIAGNOSTIC INSTRUMENT (DADI)



Unilever's haircare business wanted to develop a diagnostic device to support brand activation, engage consumers and encourage them to trial Dove products. Sagentia's brief was to develop a high-tech solution for use in TV commercials and point of sale promotions. The aim was to engage consumers, communicate their current level of hair damage then recommend and prove the efficacy of specific Dove haircare products. The device needed to be accurate, true to the Dove brand in its design and simple to use.



We devised an approach using hair-on-hair friction as a measure of hair surface damage. A brand representative runs a strand of the consumer's hair through the device, which gives an instant indication of dryness/damage. This score is used as a cue to advise on a specific care and product regime. The device then connects to the internet and uploads the consumer's damage scores along with various metadata such as hair colour and user profile. Unilever's Dove brand uses the DADI for brand launches, enabling the creation and maintenance of a personal consumer relationship while collecting data to inform the next range of products.

→ Where does personal care & beauty go from here?

The ability to segment customers more precisely, based on deeper understanding of hair and skin characteristics, is likely to be a key application for smart beauty care devices. Phenotyping will make customized experiences an everyday reality. There is also much potential for the approach to be extended across the wider personal care sector, from nailcare to footcare to oral care. Customization can also move beyond product recommendations or formulations to encompass lifestyle or nutritional advice. There is scope for personal care brands to play a more holistic role in consumer's lives, and for sister brands in adjacent categories to work cohesively and synergistically.

Five years ago, Harvard Business Review predicted that data scientists would own one of the sexiest jobs of the 21st Century. This is fast becoming a reality in the personal care and beauty sector. As brands become more accustomed to handling and leveraging big data, the quest for consumer personalization is becoming more attainable. Pioneering brands that embrace digital diagnostic devices will benefit from a richness of consumer insight that has never been possible until now. The depth and breadth of data can be harnessed to take personalization to a higher level, delivering significant brand value and competitive advantage.