# nextail

# THE RETAIL DATA-FORWARDNESS INDEX 2020:

# Tracking data talent in fashion



## **EXECUTIVE SUMMARY**

## The new retail is happening now, and it's data-forward.

Back in 2016, Alibaba's prolific founder Jack Ma envisioned a "new retail" in which true digital transformation would lead to the merging of online, offline, logistics and data into a single value chain.

And the fashion retail industry has been headed in that direction, albeit with varying levels of progress.

Just one very different year ago, we became interested in retailers' levels of "data-forwardness", or the perceived importance they were giving to data by way of their increasing talent investments. This was sparked by Nike's acquisition of retail analytics firm, Celect, among several other moves as a part of its Nike Direct initiative.

2019 also saw other major retailers begin to prioritize data within their teams, such as Levi Strauss & Co's appointment of the company's first artificial intelligence officer<sup>1</sup> and H&M's strategy<sup>2</sup> to improve operations and customer experience through the use of data.

Even so, life came at us fast in 2020. COVID-19 sent retail transformation into overdrive, pushing traditional operation and decision-making models into further obsolescence. Those retailers who have been able to turn to their data have likely better navigated the storm, while those who haven't may end up on the wrong side of the digital divide.

The intention of our work with the concept of retail data-forwardness, and particularly with this Retail Data-Forwardness Index, is to measure how fashion retailers are prioritizing the use of data and to confirm our hypothesis that **fashion retailers will continue to invest in data-related talent, in addition to technology, in order to better meet evolving customer needs.** 

And while our original plan to create the RDI did not count on a global pandemic with relevant consequences for sales and headcounts, it may be even **more important than before to gain a snapshot of where retail progress is right at the cusp of this turning point.** In fact, even as we reach the back end of a year like none other, we continue to see progress in retail data-forwardness as you'll see in the report.

**Joaquin Villalba** CEO and Co-Founder of Nextail

<sup>1</sup> https://www.retaildive.com/news/levi-strauss-appoints-an-artificial-intelligence-officer/548964/

<sup>2</sup> https://medium.com/predict/h-m-utilizing-big-data-and-artificial-intelligence-6c837ceaeaa6

## **RETAIL DATA-FORWARDNESS IN FASHION**

## **Retail Data-Forwardness defined**

First defined in our work in 2019<sup>3</sup>, retail data-forwardness refers to the degree to which fashion retailers are prioritizing the collection and use of data through advanced technologies to empower their core processes and strategies and ultimately improve customer experience.

By basing decision-making and operations on granular data as opposed to expectations and top-down approaches that become useless in the face of increasing uncertainty, **retailers are able to better meet customer needs, avoid traditional inefficiencies, increase sustainability, and future-proof their businesses.** 

But in order to prepare their organizations for such fundamental changes, **fashion retailers must also prepare their teams, arguably by equipping them with members with experience related to data science, data analysis, and even artificial intelligence.** Not only do these professionals empower brands to better interpret their data, they also allow them to and work with advanced technological solutions across the organization and it moves toward a culture of data-driven decision-making.

Thus, a core indicator of retail data-forwardness is related to the evolution of an organization's professional talent. We argue that **a willingness of fashion retailers to dedicate a significant portion of budget to data-related professionals indicates an interest in fostering a structure of people and services** that can capture full potential of fashion retailer data and beyond.

Therefore, retail data-forwardness is measured by the total number of data-related professionals by the revenue of each retailer. We quantify the level of retail data-forwardness for each retailer as:

Retail Data-Forwardness (RD) = Data-related full-time employees (#) Latest end-of-year revenue (US\$ Billion)

### 2019 outcomes and 2020 evolution: Retail Data-forwardness continues to grow

### Retailers prioritize investments in data technology and talent

Of late, retailers have begun embracing innovations such as artificial intelligence and machine learning to meet consumer demand by leveraging data to inform and automate key processes and decision-making.

Estimates for global spending by retailers on AI services are expected to reach US\$12 billion by 2023, up from an estimated US\$3.6 billion in 2019 with an increasing weight in demand forecasting<sup>4</sup>.

<sup>3</sup> https://nextail.co/2019/08/22/brands-race-to-meet-customer-needs-with-ai/

<sup>&</sup>lt;u>4 https://www.juniperresearch.com/press/press-releases/ai-spending-by-retailers-reach-12-billion-2023</u>

Since **over half of all retail activities can be automated with existing technology**<sup>5</sup>, addressing such needs in a more traditional industry, will require retail organizations to carry out extensive upskilling and reskilling of current staff and/or the onboarding of specialized professionals, who we refer to as "data-related" employees.

#### **EXHIBIT 1**



Sources: McKinsey Global Institute.

Additionally, recent estimates show that between 2016 and 2030, the hours spent performing physical and manual tasks in retail will fall 17.0% while technological skills will increase by 64.0%.

#### **EXHIBIT 2**

#### RETAIL HOURS WORKED, BY ACTIVITY, US AND WESTERN EUROPE\*, 2016 - 2030



\*Western Europe: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Netherlands, Norway, Spain, Sweden, Switzerland, and United Kingdom. Source: McKinsey Global Institute.

5 https://www.mckinsey.com/industries/retail/our-insights/closing-the-skills-gap-in-retail-with-people-analytics

### 2019 Nike acquisition of Celect sent a clear message

Given the projected growth of industry investments in advanced technology, Nike's acquisition of data analytics firm Celect<sup>6</sup> confirmed a previously held hypothesis: **An increasing number of retailers are expanding their teams to include data-related profiles.** 

In the interest of capturing a snapshot of where Nike and other retailers were on their journey toward increasing data-related talent, we ranked Nike (before and after the "acquihire") and 10 additional apparel retailers<sup>7</sup> in terms of their level of retail data-forwardness considering annual revenue.

### **EXHIBIT 3**



Nike emerged as the clear leader, especially following its acquisition of Celect, followed by Lululemon and Abercrombie.

### Checking in on data talent one year later

If there was any lingering doubt as to the fundamental shift toward data in retail at the end of 2019, 2020 has eliminated it. This year, **the trend of hiring data-related professionals in retail organizations has continued to grow despite the circumstances faced by the industry**, reinforcing data priorities.

Extreme demand distortions, shuttered stores, and piles of excess inventory related to the COVID-19 crisis revealed the shortcomings of traditional retail methods. To mitigate these sudden challenges, retailers have increasingly turned to data to take advantage of advanced technological outcomes such as predictive analysis.

<sup>6</sup> https://news.nike.com/news/nike-celect-acquisition

<sup>7</sup> See Methodology, "Retail data-forwardness of fashion companies, 2019"

### The trend continues in 2020, despite major market disruptions

Given the ongoing trend toward data-related professional onboarding, we replicated last year's work to observe the evolution of these retailers one year later<sup>8</sup>.

### **EXHIBIT 4**



### Data-related profiles have grown over the course of the last year

Data-related professionals rose among the headcounts of the retailers studied, **with like-for-like data-related profiles growing 7.4%** over the course of the year.

In 2020, Nike and its brands continued to lead the way in absolute numbers of data-related professionals, followed by Adidas and H&M. In terms of growth since 2019, **Foot Locker grew the most by far at 117.6%**, followed by **Levi Strauss & Co, at 64.5%**.

These numbers are positive, in particular considering the disruption faced within the industry during the peak months of the COVID-19 crisis. As a consequence, many retailers were forced to furlough staff or carry out layoffs<sup>9</sup>.

<sup>8</sup> See Methodology, "Retail data-forwardness of fashion companies, 2020"

<sup>9</sup> https://www.drapersonline.com/news/the-latest-fashion-retail-redundancies

# Overall growth in terms of types of data-related professionals and their weight in fashion retail organizations

There has also been an observable, generalized uptick in data and Al-related positions across industries. According to LinkedIn's 2020 Emerging Job Reports<sup>10</sup> highlighting the fastest-growing jobs and related industries in 18 major global economies, in all countries studied, "data scientist" appears 94.0% of the time, and "Al engineer/specialist", with an average rank of 2, reached the top five positions in 92.0% of countries studied.

Given the growth of AI and data-related professionals globally, we identified the opportunity to add robustness and scope to our investigation by incorporating further data-related professional profiles to our search. We replicated the search, including a variety of related, newly-identified positions<sup>12</sup>.

#### **EXHIBIT 5**



Including new professional titles allowed us to identify 319 additional data-related professionals among the companies studied, raising the overall weight of data-related employees over total headcount from 0.3% to 0.4%.

<sup>10</sup> https://business.linkedin.com/talent-solutions/emerging-jobs-report

<sup>1</sup> Argentina, Australia, Brazil, Canada, France, Germany, India, Indonesia, Malaysia, Mexico, Netherlands, Philippines, Singapore, Spain,

Thailand, UK, and US 1<u>2 See Methodology,</u> "Retail data-forwardness variation with the inclusion of new data-related profiles, 2020"

## The basis for creating the Retail Data-Forwardness Index

Our original study was meant to serve as a litmus test to understand where major fashion retailers were in their journey toward data-forwardness. However, a year later, these numbers still continue to climb despite even a global pandemic that has caused numerous fashion retailers to drastically shift course and reduce headcounts.

The growth of data-related profiles in fashion retail in addition to global, cross-industry growth of data professionals prove our hypothesis and serve to create a more robust model for studying data-forwardness, resulting in the following Retail Data-Forwardness Index.

## THE RETAIL DATA-FORWARDNESS INDEX

## What the Retail Data-Forwardness Index measures

# The RDI is a measure of the degree to which major fashion retailers<sup>13</sup> are dedicating a significant portion of their annual budgets to investing in data-related professionals.

By studying the number of these new profiles beginning to appear within fashion organizations and their relation to business metrics, we are able to track retailer progress in data-forwardness over time. As previously mentioned in "'Retail Data-Forwardness defined", each retailer's RD (retail data-forwardness) is calculated by dividing the total number of data-related professionals by annual revenue.

The Index measures data professionals that are currently and directly employed within fashion organizations. While it does not account for outsourced professionals and solutions, our experience has shown us that it is still able to capture the data-forward reality of fashion retailers. This is due to the fact that fashion retailers often incorporate these types of profiles after *already having* a first contact with data science and decision automation via third-party providers.

In other words, the sooner retailers begin working with external partners, the faster they tend to build in-house data capabilities as they grow to understand the value that data science and decision automation can add across the breadth of the business.

In fact, without having some degree of familiarity with advanced data and automation, retailers are unlikely to commit to high-level investments in such talent. Thus, those who are taking on data-related professionals operate under more innovative philosophies and are therefore more "retail data-forward" to begin with.

<sup>13</sup> See Methodology, "Retail Data-Forwardness Index (RDI) 2020"

#### **RETAIL DATA-FORWARDNESS INDEX 2020**



#### The average RD for fashion retailers is 5.8 data-related employees per US\$1 Billion

Among the fashion companies included in the Index, there were a total of 2,099 data-related employees. On average, this translates into **95.4 of these professionals per company, or 1.4 data-related employees per 1,000 employees** for a weight of 0.1% of the entire headcount and 0.9% of HQ employees.

## Sportswear, the most data-forward category, while Off-price and Fast-fashion retailers trail behind

Sportswear, the most retail data-forward category, with an aggregated RD of 12.8, has the highest weight over total headcount in terms of data-related employees at 0.5%.

What's more, three of the top five companies by weight percentage of data-related employees over total headcount are sportswear retailers (Nike, Adidas, Lululemon), with a total of 917 of these professionals among them. The average ratio of their data employees over total headcount for these three companies is high, at 0.6%.

Following Sportswear, Premium retailers have the second highest RD of 8.1 and weight of data-related employees over total headcount at 0.2%, and Ready-to-wear has an RD of 7.7. Off-price retailers, however, trail behind with an RD of 2.2 and a low 0.03% weight of data-related employees over total headcount.

### Nike continues to outperform other retailers

Sportswear retailer Nike continues to come in at the top of the list as the **most data-forward retailer with** an RD of 17.2 and the highest weight of data-related employees over total headcount at 0.9%.

Nike has been very open about its data and digital priorities, as its acquisition of Celect was only one aspect of its Nike Direct<sup>14</sup> DTC initiatives. Nike also attributed the 75.0% surge in digital sales during COVID-19 lockdowns to its digital commitments<sup>15</sup>.

On the other hand, TJX companies, with triple the overall number of employees in comparison with Nike, had the lowest weight of data professionals among their headcount.

### Data-forward retailers look to increase efficiencies

#### EXHIBIT 7



RETAIL DATA-FORWARDNESS OF FASHION CATEGORIES BY AVERAGE PROFIT MARGIN

Following **Sportswear, Premium and Ready-to-wear** categories are the most data-forward fashion categories, respectively. These three categories also have the lowest profit margins at the time of study. On average, these three categories had an average of 3% profit margin, while the overall average was 10% across indexed companies.

<sup>14</sup> https://digital.hbs.edu/platform-digit/submission/nike-just-do-it-with-data-science-and-demand-sensing/

<sup>15</sup> https://wwd.com/business-news/retail/nike-to-open-first-european-house-of-innovation-in-paris-1203689173/

The fact that these three categories are making a strong investment in data-related professionals may be signaling a link between the need for brands and categories with tighter margins to seek ways to leverage data to find and increase efficiencies.

On the other end of the spectrum, luxury retailers, while having very high profit margins and revenues also have quite low data-forwardness, with an aggregated RD of 3.4 data-related employees. While these retailers have the ability to invest in more data-related professionals, they continue to lag behind other categories, perhaps as it continues to be a more niche area of retail which has generally been slower to prioritize digitization.

## CONCLUSIONS

## An interest in data is a good start, but industry leaders are data-forward

Today, the fashion retail industry has the ability to provide customers with a better experience than ever, be it through more personalization, better product availability, or through more efficient operations - all of which are interconnected, and all of which are possible through the advanced use of data.

By leveraging advanced technology such as artificial intelligence and machine learning, they can finally use data, both their own and that of others, to get closer to customers and see demand coming in order to plan at the hyper-local level and remain flexible to change.

In order for that to happen, however, **fashion organizations must also have people in the organization with the right skills to build, manage, or apply this transformational data technology.** This also means that the industry must seek professionals from alternative fields, such as talent that brings more analytical experience like data scientists, AI specialists, and more.

While we can attempt to track the technology and partnerships that fashion retailers develop in order to digitally transform, what's clear is that the success of these investments will also be to some degree dependent on how they invest in their human resources, or in other words, their level of retail data-forwardness.

On the other hand, those retail organizations that are committing precious resources to such heavy talent investments are likely already convinced of the value of data science and decision automation. Often, they have, or are currently, working with third-party providers and outsourced professionals and are expanding teams as a culture of data-based decision-making begins to permeate throughout the business.

Beginning with a smaller study on the data-forwardness of fashion companies in 2019 which was replicated a year later, we continue to see the trend of incorporating data-related profiles into fashion organizations. With that as a launching point, we've created the RDI to be able to track such an evolution on a broader scale into the future.

This initial study has demonstrated that fashion retailers across categories have different levels of retail data-forwardness, that, today, have very clear leaders in terms of brands and groups (e.g. Nike, Lululemon, Burberry) as well as categories (e.g. Sportswear).

We expect that fashion retailers will continue to grow their data-related teams to ready their businesses for a data-driven future, especially as even a global pandemic has not thrown them off their course. In fact, in many ways, it will likely push them even further in this direction as they look to data to get closer to customers, to solve traditional retail inefficiencies, and automate processes and decision-making.

## METHODOLOGY

## Retail data-forwardness of fashion companies, 2019

To produce our findings, we used LinkedIn Recruiter to search 11 major brands for individuals currently employed with any of the following job titles: Data Scientist, Machine Learning Engineer, Data Science Manager, Data Science Specialist, Data Engineer, Director Data Science, Head of Data Science, Data Specialist, Data Consultant, Data Manager, Chief Data Officer, Big Data Developer, Head of Data Management, Data Architect.

We then used recent, publicly available annual revenue for each company to calculate each retailer's number of data employees per billion USD in revenue.

## Retail data-forwardness of fashion companies, 2020

This study was a like-for-like replication of "Retail data-forwardness of fashion companies, 2019". However, in order to find the weight of data-related professionals within a company headcount, we used publicly available figures on each company's number of employees.

# Retail data -forwardness variation with the inclusion of new data-related profiles, 2020

This study was a like-for-like replication of "Retail data-forwardness of fashion companies, 2020," but the following professional titles were also included within our search: AI consultant, AI engineer, AI intern, AI researcher, AI specialist, Business data analyst, Chief data scientist, Data analyst, Data integrity analyst, Data management analyst, Data management consultant, Data management coordinator, Data management specialist, Data management team lead, Data migration analyst, Data quality analyst, Data reporting analyst, Data research analyst, Data science intern, Data science researcher, Data science VP, Data technician, Director data management, Director of AI, Director of machine learning, Enterprise data architect, Head of AI, Head of machine learning intern, Machine learning researcher, Machine learning specialist, Manager data management, Manager of AI, Manager of machine learning, Master data analyst, Senior data analyst, Senior data architect, Senior data manager, Senior data scientist, VP of AI, VP of machine learning.

## Retail Data-Forwardness Index (RDI) 2020

The RDI is largely a broadening of our previous work in that it identifies data-related professional profiles within an expanded group of fashion retailers to rank and draw comparisons among them. In the future, the Index will be used to watch how this trend evolves.

### **Retailer selection**

We expanded our search to 22 major fashion retailers, including all of their owned brands. This list was largely inspired by "Super Winners", or the top 20 players in 2018 by economic profit (\$US million) identified by the Business of Fashion and McKinsey & Company "State of Fashion 2020" Report<sup>16</sup>.

<sup>&</sup>lt;u>16 https://www.mckinsey.com/ind</u>ustries/retail/our-insights/the-state-of-fashion-2020-navigating-uncertainty

Fashion retailers in bold represent those that were additions to the "Super Winners" list: Adidas, Burberry, **Chanel**, Fast Retailing, **Foot Locker**, GAP, H&M, Hanes, Hermès, Inditex, Kering, L Brands, **Levi Strauss & Co**, Lululemon, LVMH, Nike, **PVH, Ralph Lauren**, Ross, TJX Companies, VF Corporation.

The following retailers from the "Super Winners" list were not included in our report: Pandora, Anta Sports, Next, and HLA Corporation.

### **Data-related roles**

To produce our findings, we used LinkedIn Sales Navigator to search the 22 major retailers and their brands for individuals currently employed with any of the following 60 job titles:

Al consultant, Al engineer, Al intern, Al researcher, Al specialist, Big data developer, Business data analyst, Chief data officer, Chief data scientist, Data analyst, Data architect, Data consultant, Data engineer, Data integrity analyst, Data management analyst, Data management consultant, Data management coordinator, Data management specialist, Data management team lead, Data manager, Data migration analyst, Data specialist, Data quality analyst, Data reporting analyst, Data research analyst, Data science intern, Data science manager, Data science researcher, Data science specialist, Data science VP, Data scientist, Data technician, Director data management, Director data science, Director of Al, Director of machine learning, Enterprise data architect, Head of Al, Head of data scientist, Machine learning consultant, Machine learning engineer, Machine learning intern, Machine learning researcher, Machine learning specialist, Manager data management, Manager of Al, Manager of machine learning, Master data analyst, Senior data analyst, Senior data architect, Senior data engineer, Senior data scientist, VP of Al, VP of Ma, VP of machine learning.

### Additional information collected

In addition to searching for the aforementioned professional titles, we also used publicly available information on each retailer to compile their revenue and profit at the end of each's FY 2019, as well as the official headcount of each retailer according to its last annual report. We used this information to calculate their profit margins, revenue/employee, and data-related employees weight over total headcount.

## **ABOUT NEXTAIL**

## The company

Founded by retail experts in 2014, Nextail is a fast-growing technology company that aims to transform the retail industry.

Our goal is to empower fashion brands and retailers with data-driven merchandising decisions to help them meet their customer needs and ultimately make more responsible use of resources.

The next-generation software solutions we build democratize the principles of agile retail for all fashion businesses, leveraging the power of technology and advanced analytics.

The team is currently formed by more than 90 retail, technology, and operations professionals and has offices in Spain, Italy, Russia, the UK, and the USA. Today, we are proud to call more than 25 global fashion retailers our customers, including River Island, Versace, and Pepe Jeans.

### The technology

Nextail is a new-generation platform for fashion merchandising. Leveraging advanced analytics and AI, Nextail empowers brands and retailers to sell more with less stock through hyper-local demand forecasting and agile process automation.

Our software combines data processing and data science technologies in a cloud-based architecture to provide actionable insights and automated decision-making.