



Digital Product Creation in Retail: Understanding the Path Forward



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What's the Story?

In this report, produced by Coresight Research for Kalypso, we analyze findings from a recent Coresight Research survey of retail industry decision makers. We explore current and future digital product creation (DPC)* maturity in retail across three domains, comprising 18 capabilities (see Figure 1).

Each of these were given a maturity ranking from 1 (Low) to 5 (High), the definitions of which are shown in Figure 2.

We compare our findings to data from Kalypso's two previous surveys, in 2019 and 2020.

Figure 1. 18 Capabilities, by Three Domains

Discover/Create	Make	Sell
Design Task Automation	Development Task Automation	Visual Assortment Plan/Line Review
3D Product Design	Digital Product Development	Customization Platform
Visual Line Planning	Automated Cut, Sew & Move	Virtual Showroom/Store Planning
Digital Material Design & Scanning	Virtual Testing and Simulation	Digital Assets for eCommerce
Digital Color & Artwork Design	Virtual Fit Testing	Virtual Consumer Try-On and Avatars
Voice of Consumer Analytics Integration	3D Printing/Additive Manufacturing	Digital Assets for Marketing & Retail/Store

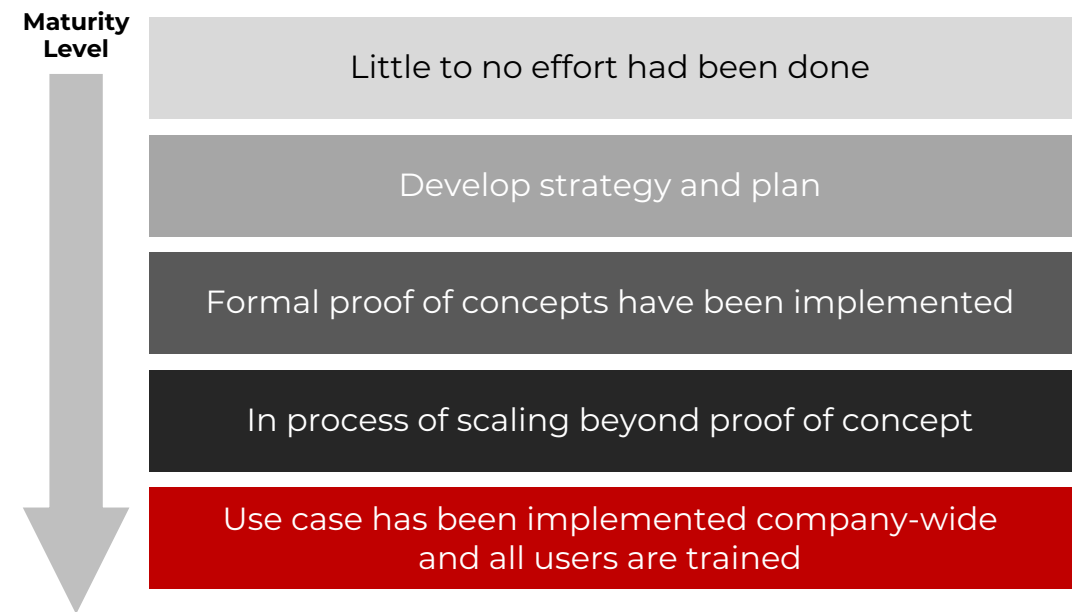
Source: Kalypso/Coresight Research

*DPC: "The practice of designing, prototyping and verifying products in a virtual and collaborative environment" (Kalypso).

The survey also covered the following topics:

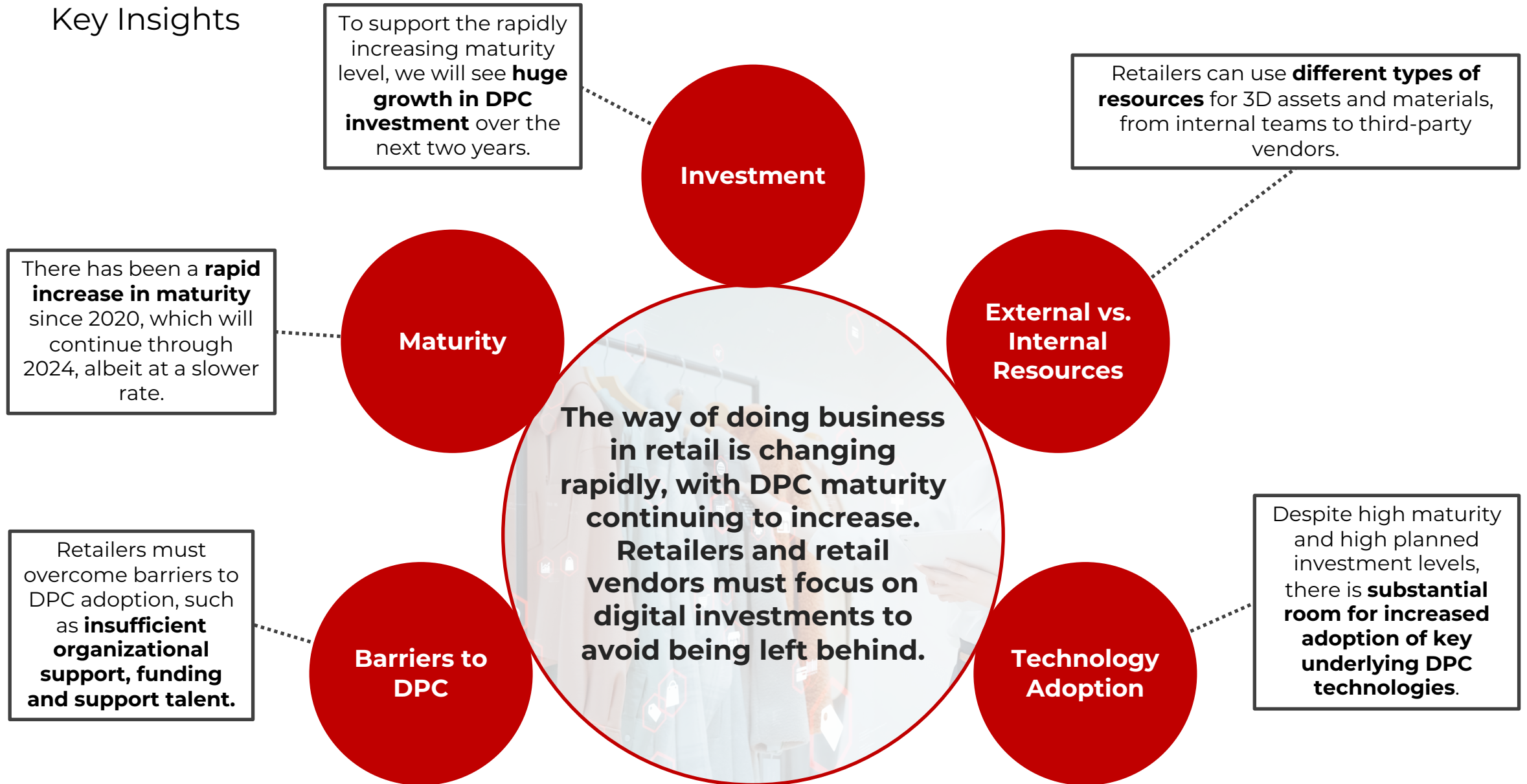
- Current and planned DPC investment
- Use and utility of different technologies
- Use and utility of external and internal resources
- Barriers to DPC implementation

Figure 2. Maturity Ranking Definitions



Source: Kalypso/Coresight Research

Key Insights



Topline Findings

The **average 2022 DPC maturity level** was **4.05 (out of 5.00)** and will grow to **4.49** by 2024.

This level of maturity is seen across all 18 DPC capabilities, rather than being concentrated in a few areas.

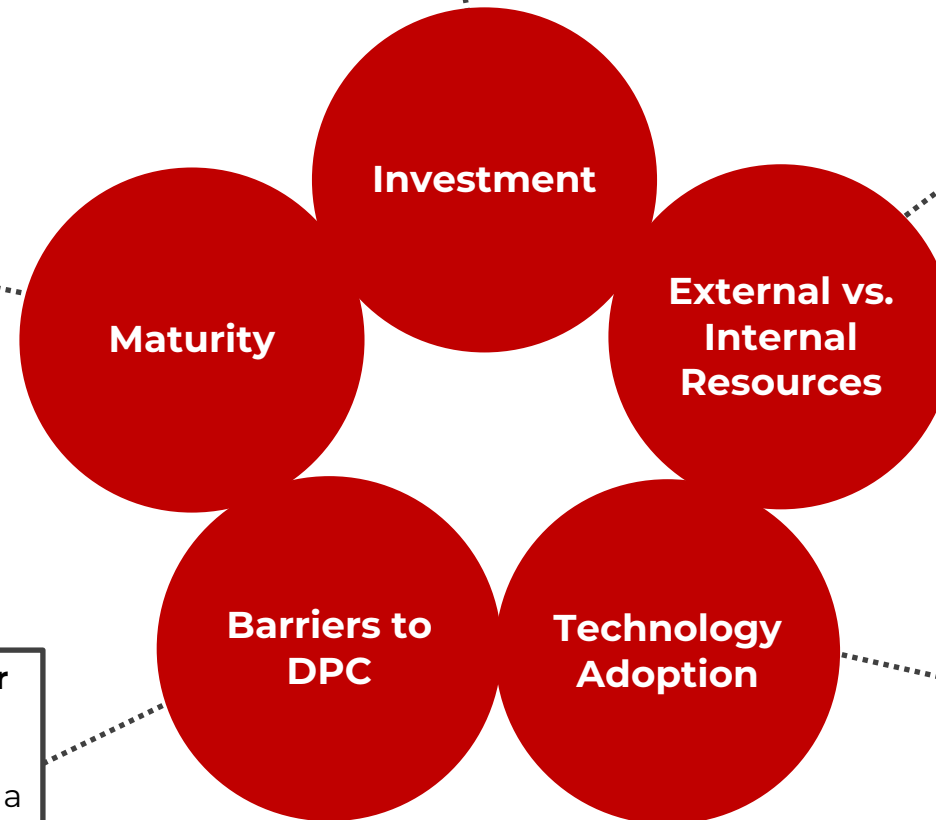
In the 18 months since the last survey, **a major maturity increase occurred**, from **2.15 in 2020** (clients only) to an overall average of 4.05.

The level of maturity is mirrored in **rapidly increasing plans for investment**. By 2024, **over 94%** of companies plan to invest in DPC.

There is a roughly **50/50** use of **external and internal resources**, with the utility of external resources ranking higher than internal.

Usage of most foundational products is in the **40%–50% range**, and **30–40%** for key integration technologies.

There is **no single overarching barrier** to DPC adoption; rather, several smaller issues. The largest barriers (each in the **35%–45%** range) relate to a **lack of underlying sponsorship/support**



Summary of Findings

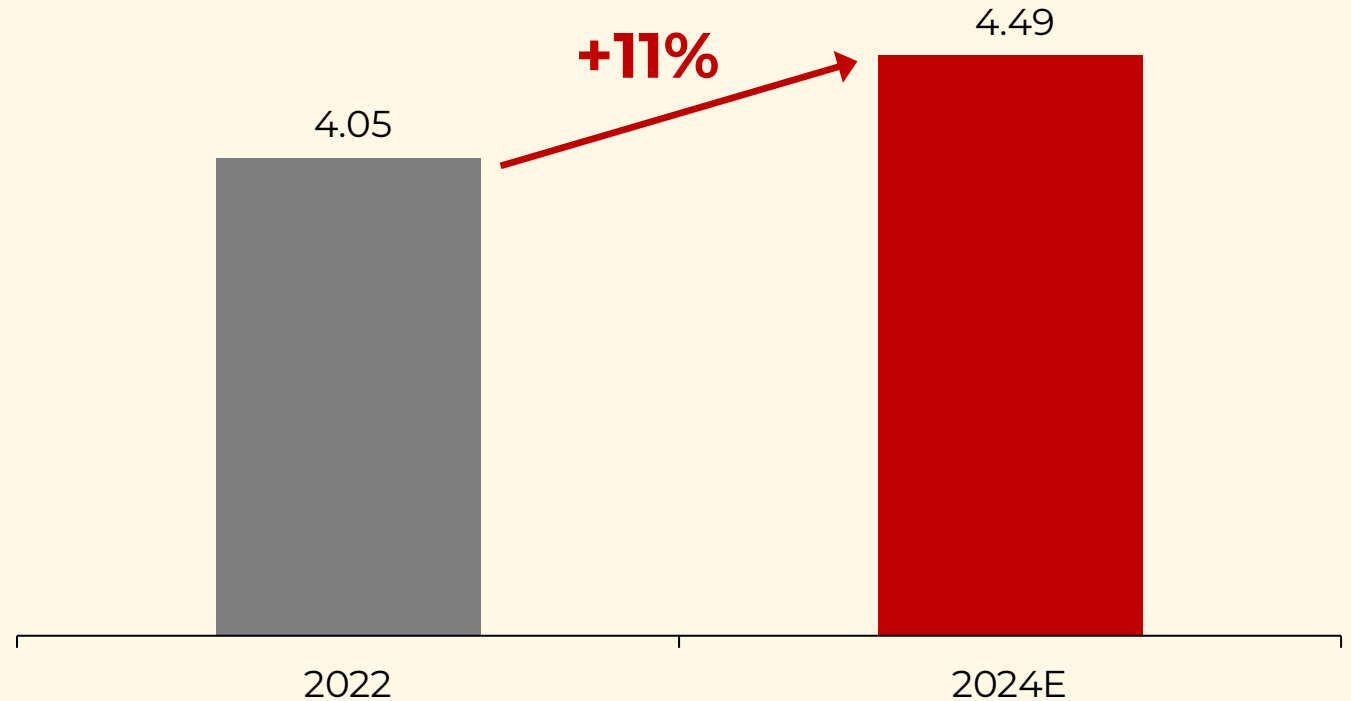
1. DPC Maturity

The overall average DPC maturity for 2022 is **4.05** (out of 5.00).

We project maturity for 2024 to be 4.49, an increase of 11%.

We expect to see continued growth in DPC maturity over the next two years

Figure 3. Average DPC Maturity



Base: 272 retail industry decision makers, surveyed in December 2021
Source: Coresight Research

Maturity Factors

Larger organizations have **higher maturity and investment rates** because they have the scale to afford the requisite investments in technology, staff and outside vendors.

Figure 4. DPC Maturity by Annual Revenue

	<\$500 million	\$500 million to <\$1 billion	\$1 billion to <\$5 billion	\$5 billion to <\$20 billion	\$20 billion or more
Discover/ Create	3.89	3.97	4.13	4.22	4.45
Make	3.89	3.97	4.13	4.22	4.45
Sell	3.78	4.06	4.09	4.22	4.44
Average	3.85	4.00	4.12	4.22	4.45

Red=low maturity; green=high maturity
Base: 272 retail industry decision makers
Source: Coresight Research

Companies with multiple products have the highest maturity rates

For single-product companies, **apparel maturity ranked highest**, footwear second-highest and accessories lowest.

Figure 5. DPC Maturity by Company Products

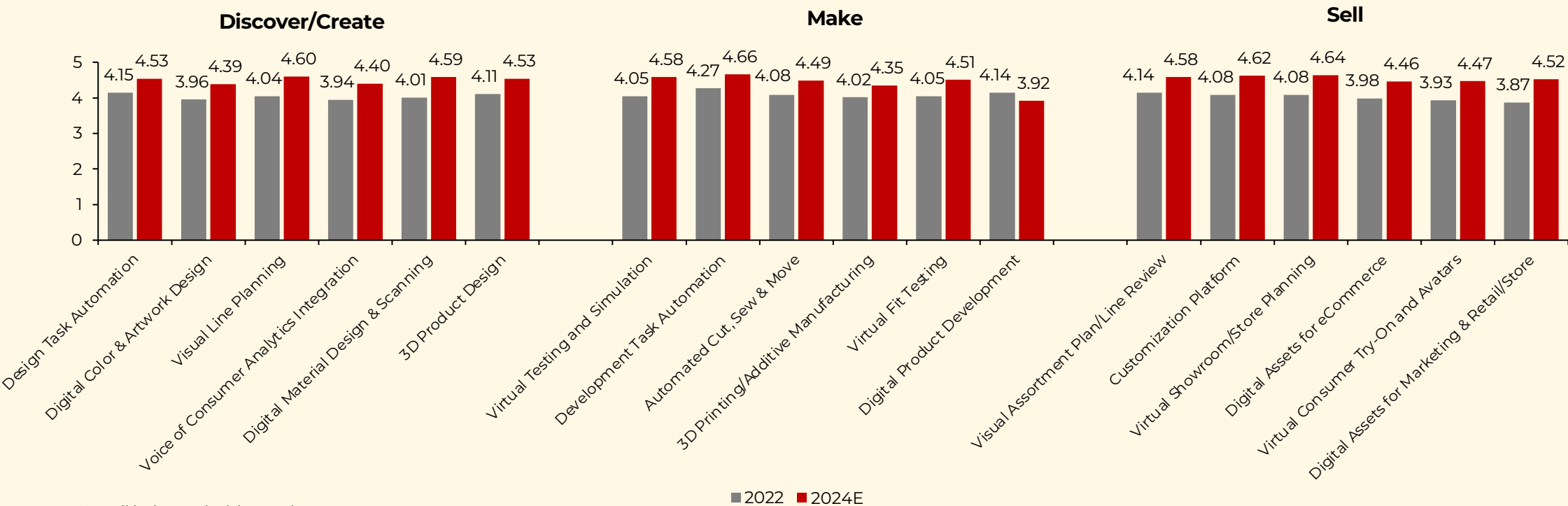
	Accessories Only	Footwear Only	Apparel Only	Two Products Categories	Three to Four Products Categories
Discover/ Create	3.62	3.85	3.99	4.10	4.24
Make	3.62	3.85	3.99	4.10	4.24
Sell	3.45	3.65	3.95	4.17	4.28
Average	3.56	3.78	3.97	4.12	4.25

Red=low maturity; green=high maturity
Base: 272 retail industry decision makers
Source: Coresight Research

Maturity: Growing Equalization Across the 18 DPC Capabilities

Currently, retail companies appear to be adopting DPC across the board rather than in select areas, as we saw in 2020

Figure 6. DPC Maturity Across 18 Capabilities



Base: 272 retail industry decision makers
Source: Kalypso/Coresight Research

2. Planned Investment

In addition to asking for maturity rankings for each of the 18 use cases, the 2022 survey asked about planned investment levels.

While the metrics are different, the maturity and investment plan results should be directionally similar.

With respect to planned investment, the survey shows that **57%** of respondents are **“already investing” in DPC**.

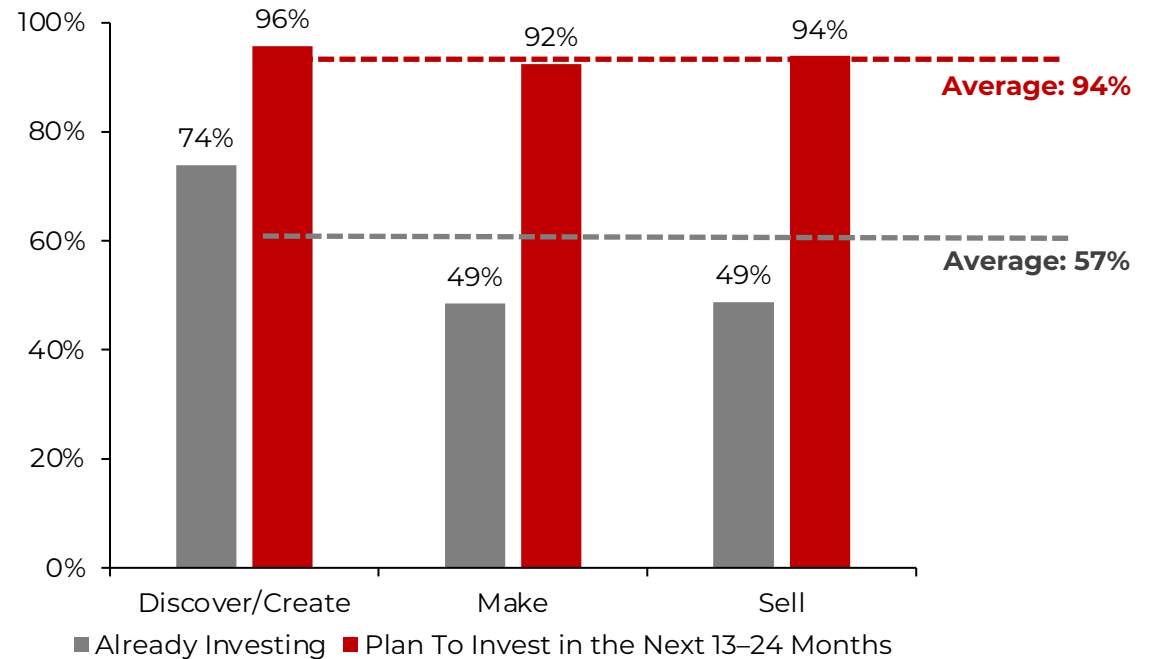
- “Discover/Create” saw the highest proportion of respondents report that they are already investing in the DPC category, at 74%.

Within the next 24 months, investment in DPC overall will grow to **94%**.

- “Make” and “Sell” will catch up to “Discover/Create.”

We are seeing rapid growth in investment

Figure 7. DPC Investment by Category (% of Respondents)



Base: 272 retail industry decision makers
Source: Coresight Research

Investment: Annual Growth Rate

If investment in DPC does grow from 57% to 94% in the next two years, it would represent a CAGR of **28%**.

Figure 8. DPC Investment and CAGR, by Category (%)

	Discover/ Create	Make	Sell	Average
Already Investing	74%	49%	49%	57%
Plan To Invest in the Next 13–24 Months	96%	92%	94%	94%
CAGR % (2022 to 2024)	14%	38%	39%	28%

Base: 272 retail industry decision makers
Source: Coresight Research

**A 28% CAGR implies substantial,
continual spending**



3. Use of Foundational Product Technologies

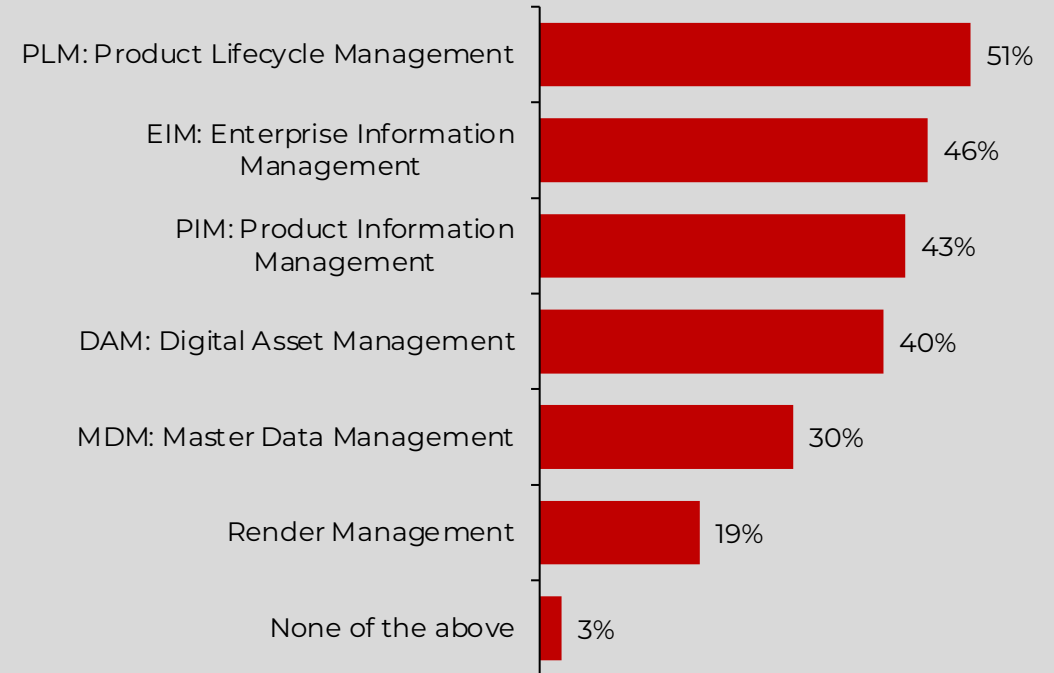
The survey asked respondents about current use of six foundational product technologies to support the 18 core DPC uses.

The results indicate that usage of most foundational products are in the **40%–50%** range.

MDM and render management have substantially lower utilizations, at 30% and 19%, respectively.

Current usage in the 40–50% range suggests considerable room for additional technology penetration

Figure 9. Use of Different Technologies (% of Respondents)



Base: 272 retail industry decision makers
Source: Coresight Research

4. Use of Product Integration Technologies

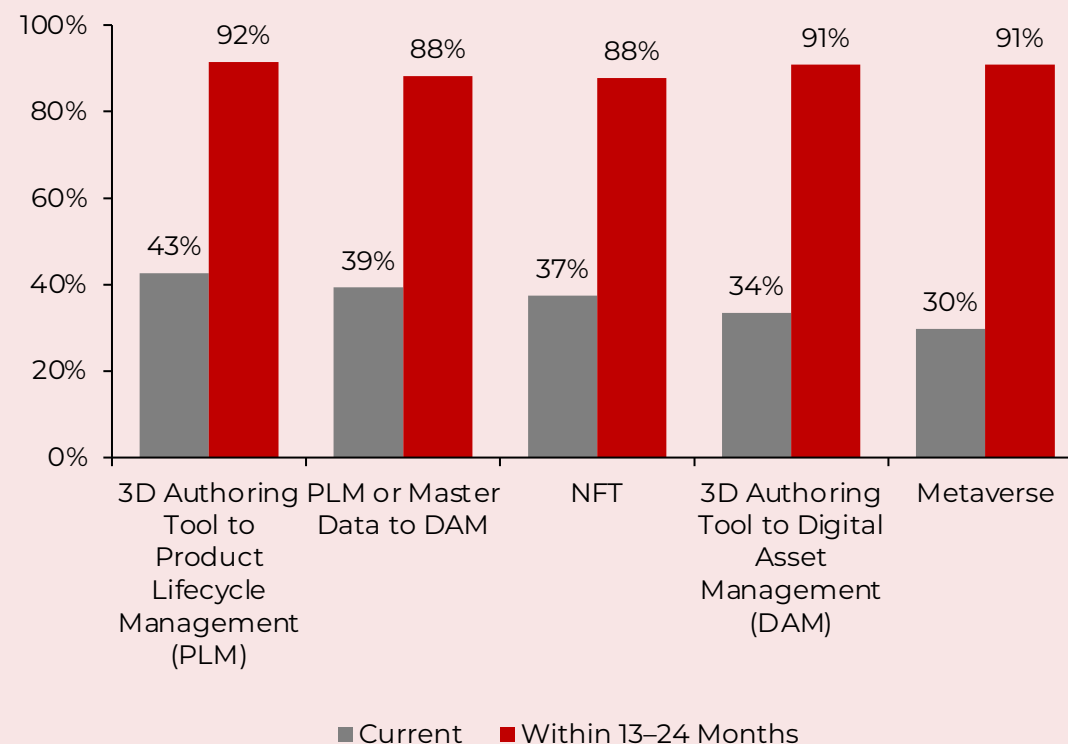
Most current integration technology adoption is in the **30%–40%** range.

Despite the high DPC maturity rates, this suggests **substantial room for additional penetration.**

However, within two years, adoption will rise to around 90%, suggesting eventual slowing of growth.

The survey suggests rapid increase in use of integration technologies over the next two years

Figure 10. Adoption of Product Integration Technologies (% of Respondents)



Base: 272 retail industry decision makers
Source: Coresight Research

5. Utility of Different Technologies

The survey asked respondents to rank the utility of different technologies from “Strongly Agree” (5) to “Strongly Disagree” (1).

The technology utility rankings are all at the **“Somewhat Agree”** level.

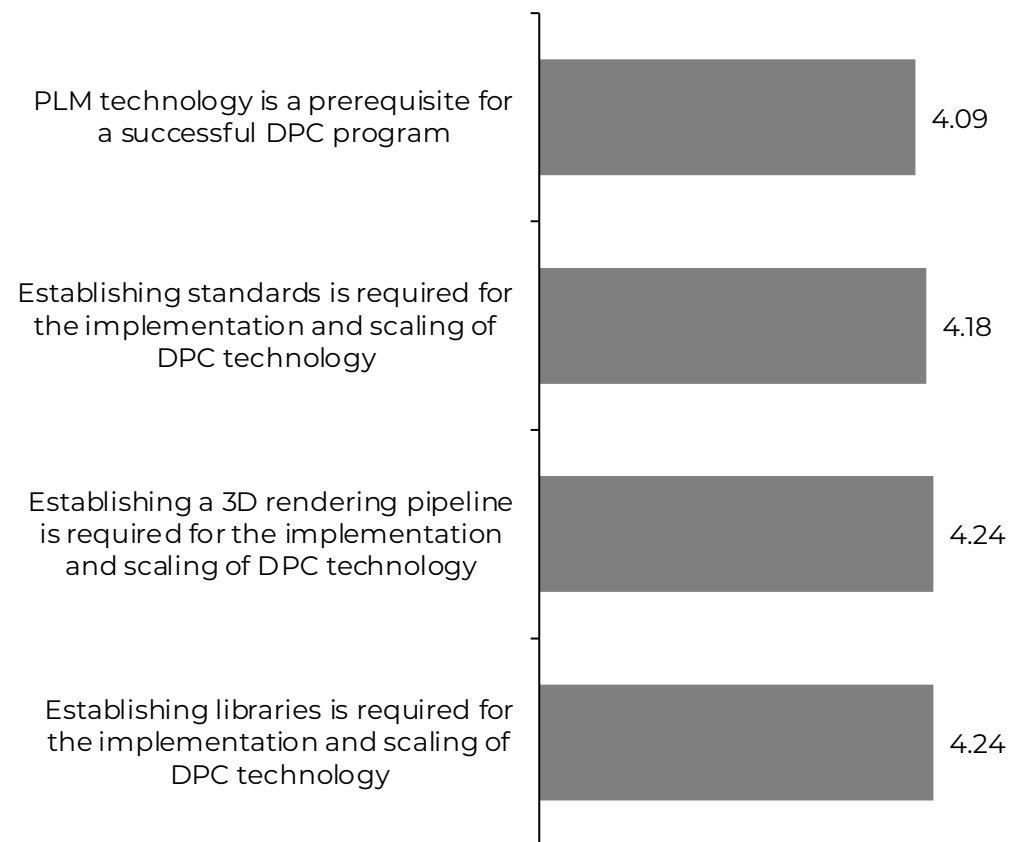
Survey results show a strong baseline for the utility of technologies in the low 4.0 range (somewhat agree), but leaves room for improvement

Figure 11. Technology Utility Ranking System

Utility	Ranking
Strongly Agree	5
Somewhat Agree	4
Neither Agree nor Disagree	3
Somewhat Disagree	2
Strongly Disagree	1

Source: Coresight Research

Figure 12. Utility Rankings for Different Technologies

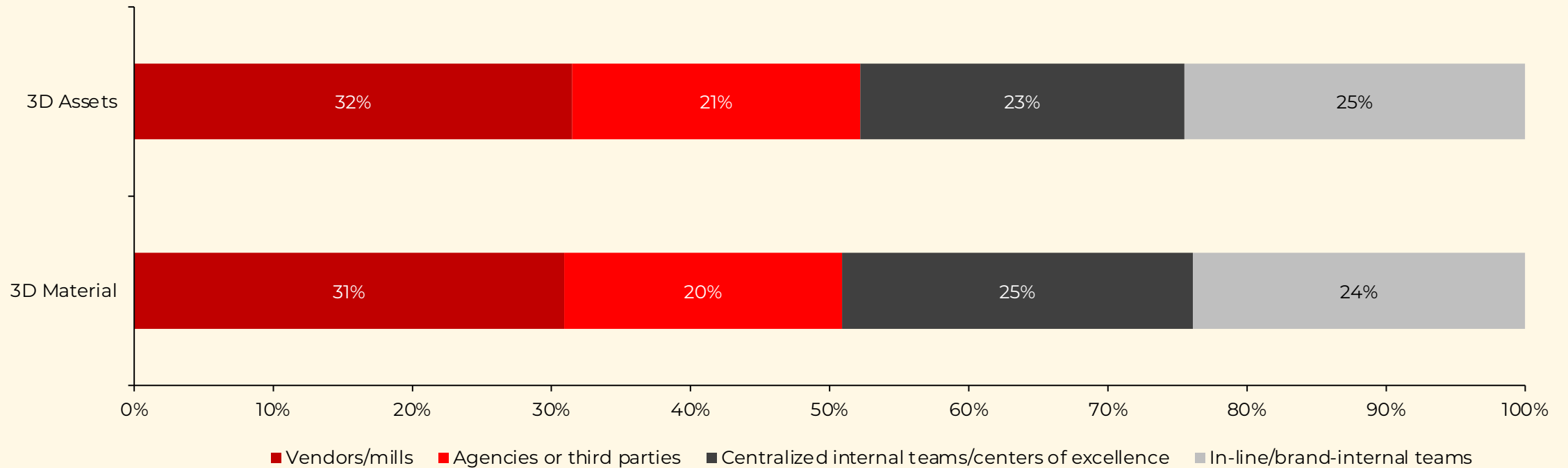


Base: 272 retail industry decision makers
Source: Coresight Research

6. Use of External Versus Internal Resources

There is a 50/50 mix between external and internal resources for both 3D material and assets

Figure 13. Use of Different Types of Resources for 3D Assets and Material (% of Respondents)



Totals may not sum to 100 due to rounding

Base: 272 retail industry decision makers

Source: Coresight Research

7. Utility of Different Educational Resources

The survey asked respondents to rank the utility of different educational resources from “Extremely Useful” (5) to “Not at all Useful” (1).

The technologies were ranked between “Extremely Useful” and “Very Useful,” suggesting that **respondents are happy with their support resources.**

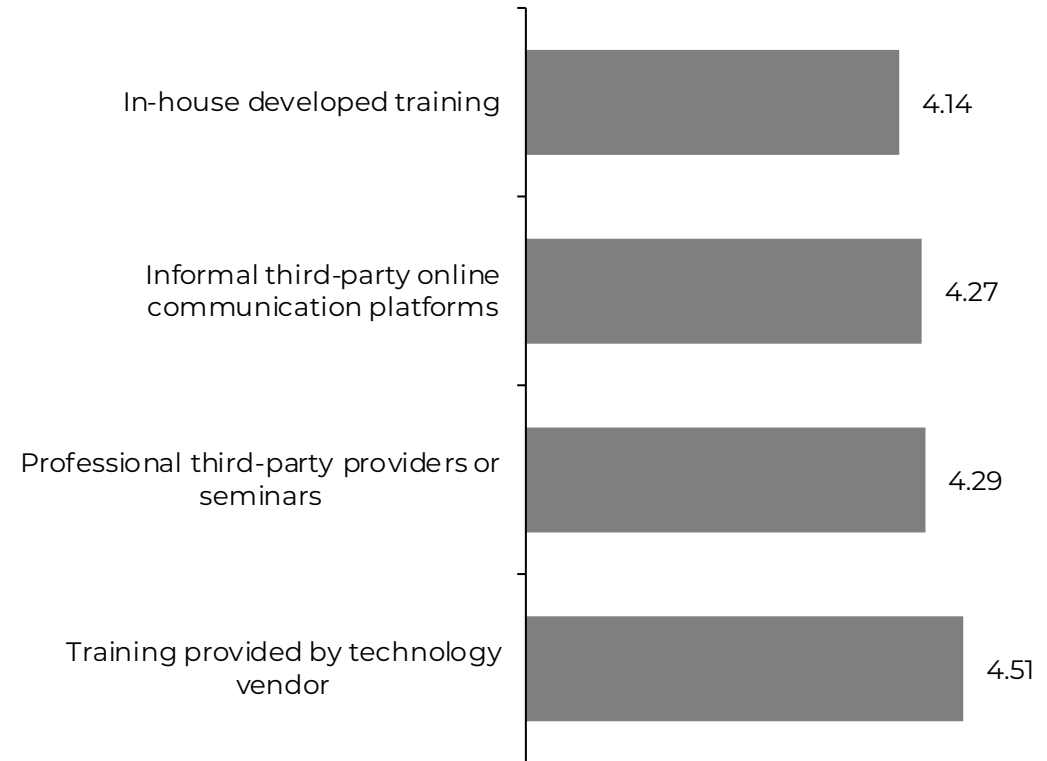
Training provided by outside vendors ranked highest, while in-house training ranked lowest

Figure 14. Educational Resource Utility Ranking System

Utility	Ranking
Extremely Useful	5
Very Useful	4
Moderately Useful	3
Slightly Useful	2
Not at all Useful	1

Source: Coresight Research

Figure 15. Utility Rankings for Different Educational Resources



Base: 272 retail industry decision makers
Source: Coresight Research

8. Barriers to DPC Implementation

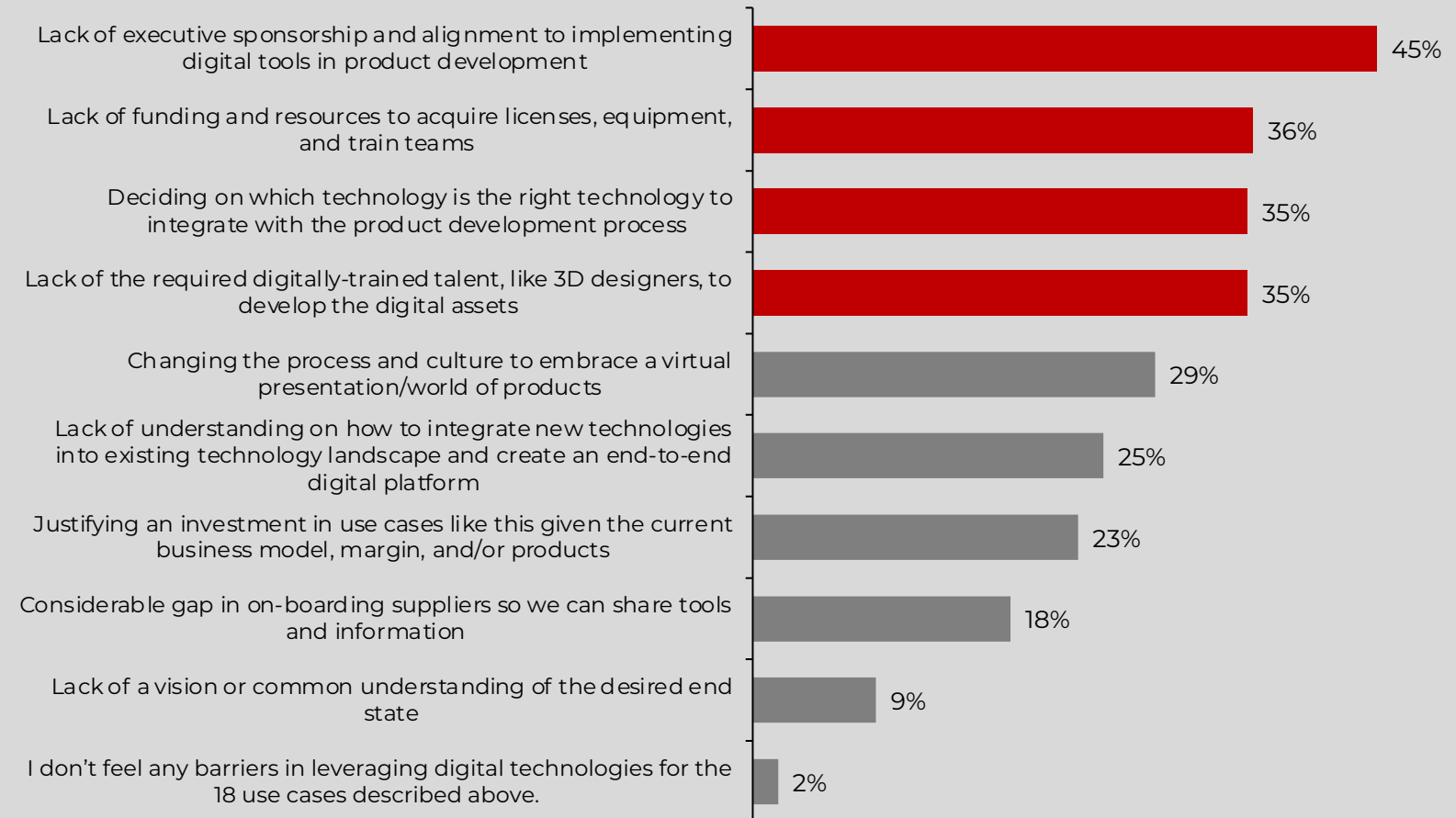
The survey asked which barriers, if any, have hindered DPC adoption or implementation plans.

There is a major range in perceived barriers, with **the highest four barriers related to lack of executive sponsorship, funding, technology support and talent.**

However, there is no single category with a majority of respondents.

The largest barriers (each in the 35%–45% range) relate to a lack of underlying sponsorship/support

Figure 16. Barriers to DPC Implementation (% of Respondents)



*Respondents could select multiple options
Base: 272 retail industry decision makers
Source: Coresight Research*

Comparison to Previous Survey Data

The Acceleration of Digital Maturity

Trends Over Time

The 2022 survey found that there has been a rapid increase in DPC maturity versus the 2020 survey.

- Average maturity **rose 89%**, from 2.15 to 4.05.
- Average maturity is **22% higher** than the 2020 survey's 3.37 forecast for 2022.

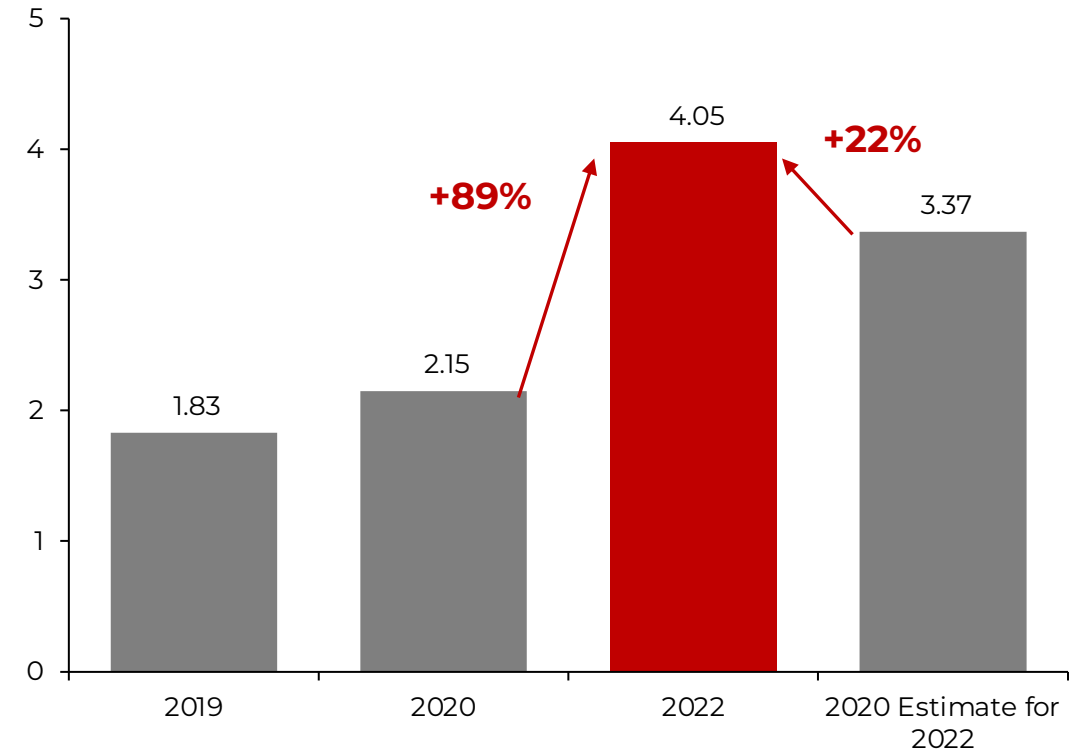
However, there are some caveats:

- The 2020 survey was much smaller (sample size of 43).
- The 2020 survey was limited to the Kalypso client network, while the 2022 survey included broader participation.

Hypothesis: The accelerated growth is a result of pandemic-led trends

- E-commerce versus in-store shopping
- Use of digitally accessible technology to facilitate remote work

Figure 17. DPC Maturity Ranking Overall



Base: Retail industry decision makers
Source: Kalypso/Coresight Research

Reduced Differences Across Domains

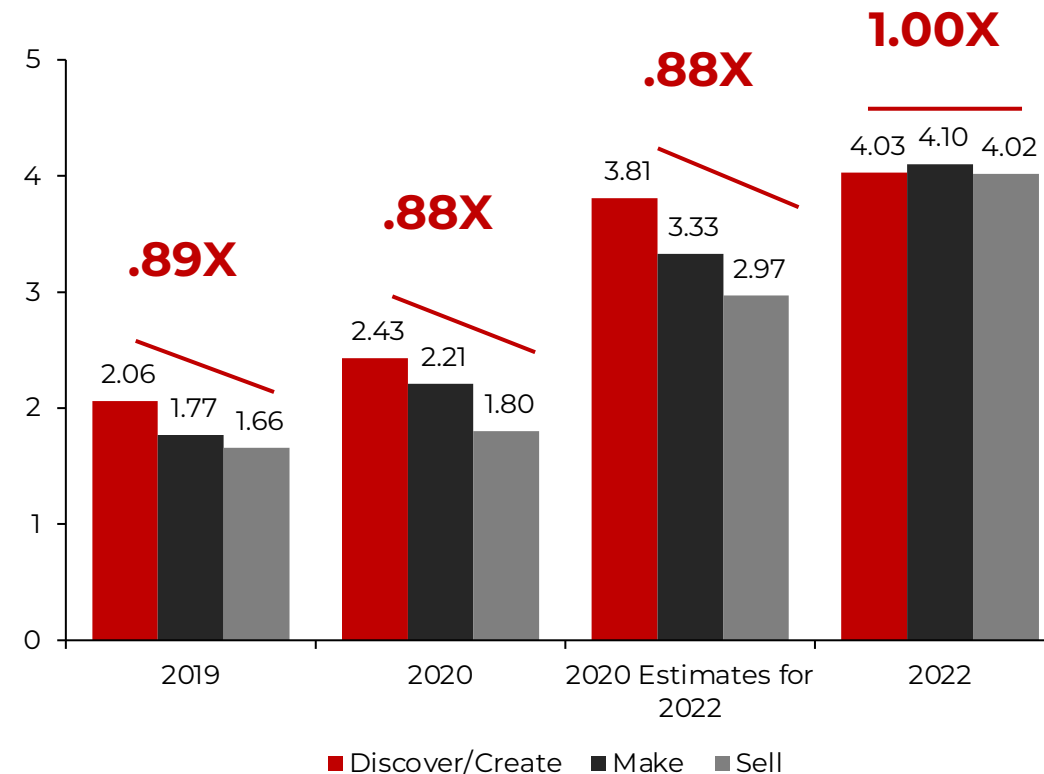
In prior surveys, there was a **consistent maturity difference** across the three major DPC domains.

- In the 2019 survey, “Sell” was 89% of “Discover/Create.”
- In the 2020 survey and its 2022 forecast, this difference stood at 88%.

However, in the 2022 survey, these **differences have been largely eliminated**, with all domains now in the **4.02–4.10** range.

All three domains are rapidly approaching maturity

Figure 18. DPC Maturity by Domain



Base: Retail industry decision makers
Source: Kalypso/Coresight Research

Penetration Rates

As a result of the surge in maturity rankings, DPC technology is rapidly **penetrating the potential market**.

- In 2020, the average maturity of 2.15 represented 43% penetration.
- In the 2022 survey, the 4.05 maturity represents **81% penetration**.

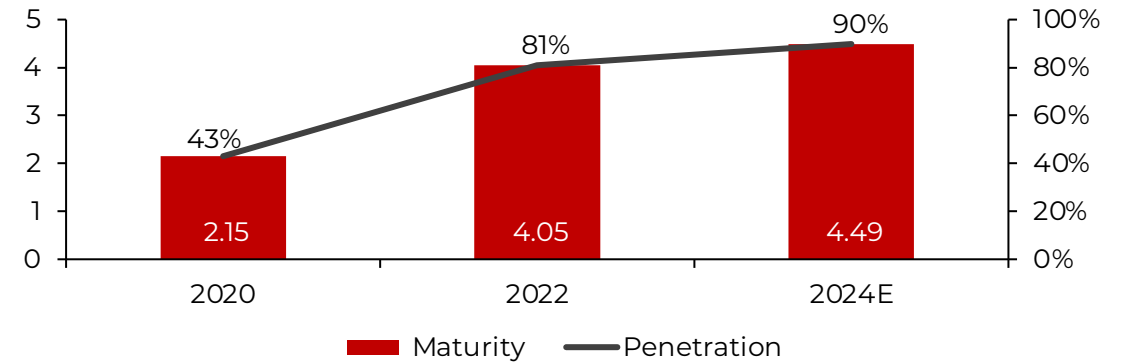
By December 2023, the projected 4.49 maturity will represent a 90% penetration.

This suggests that the market is approaching the **asymptotic phase of a classic S-shaped penetration curve**.

However, much of the implementation spending (and therefore market growth) may occur at the 4.00–5.00 maturity level.

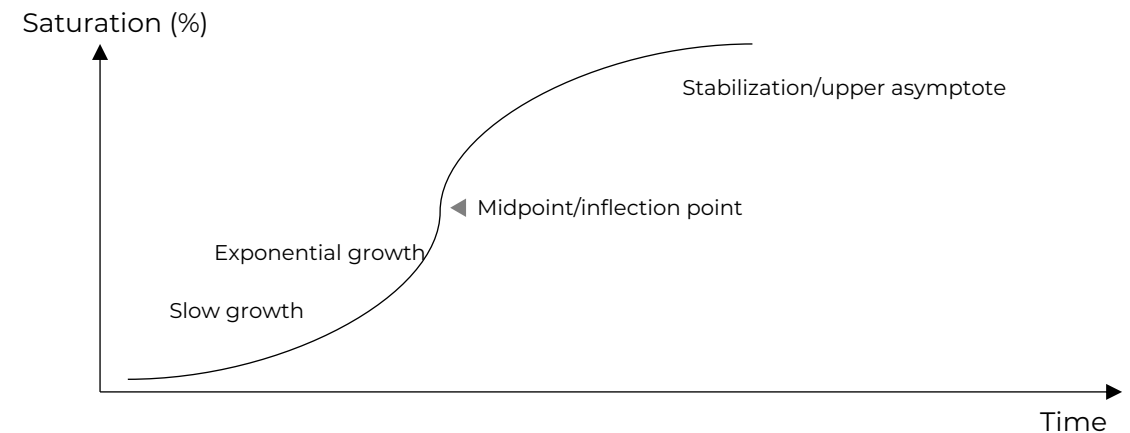
This is supported by the 2022 survey showing a rapid increase in planned investment and under-50% penetration of key technologies.

Figure 19. DPC Maturity (Left Axis) and Penetration (Right Axis; %)



Base: 272 retail industry decision makers
Source: Kalypso/Coresight Research

Figure 20. Illustrative S-Shaped Penetration Curve



Source: Coresight Research

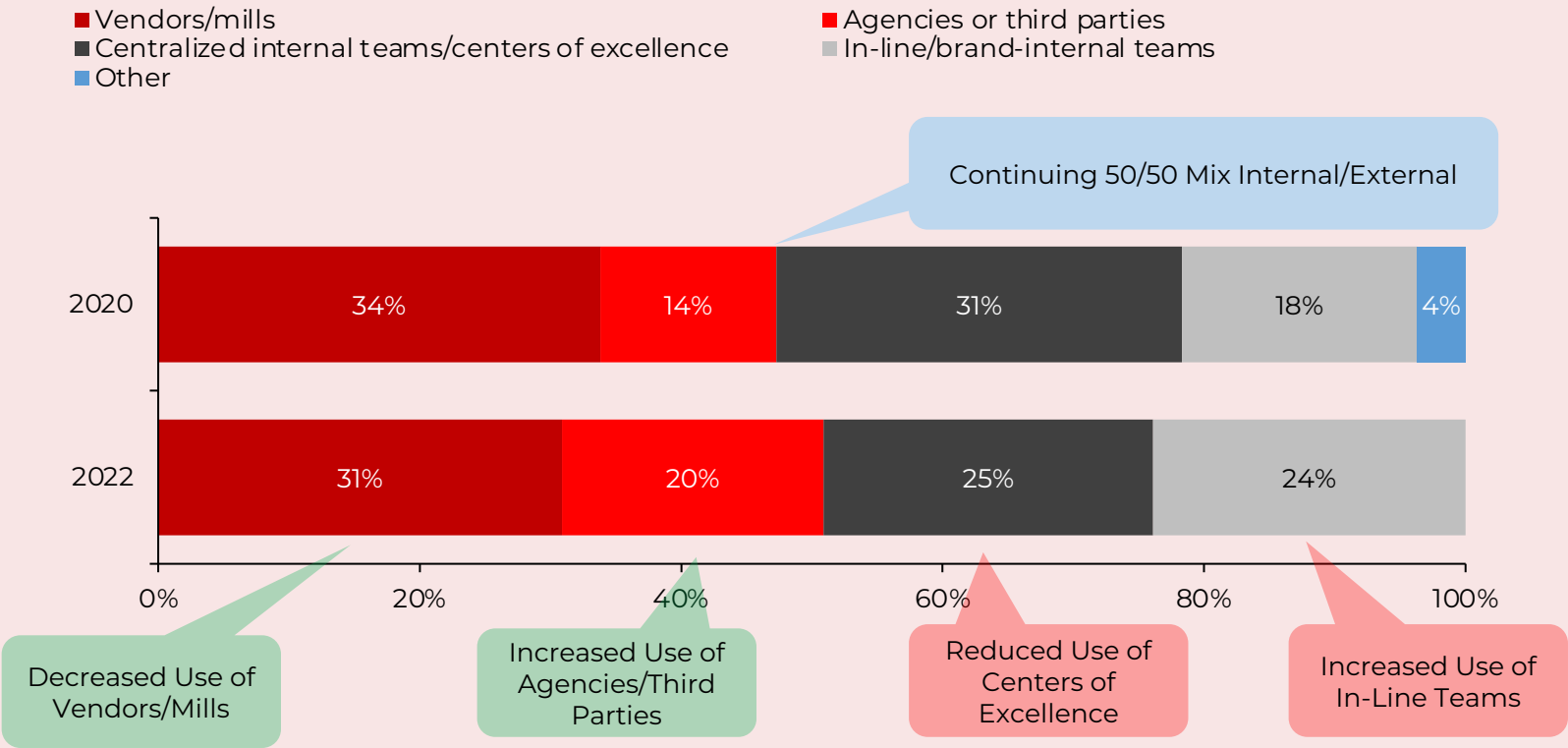
Use of External Versus Internal Resources

3D Material

We continue to see a 50/50 mix of internal and external resources regarding 3D material.

However, within external and internal, there are substantial mix changes.

Figure 21. 3D Material Resource Use: 2020 Survey Versus 2022 Survey



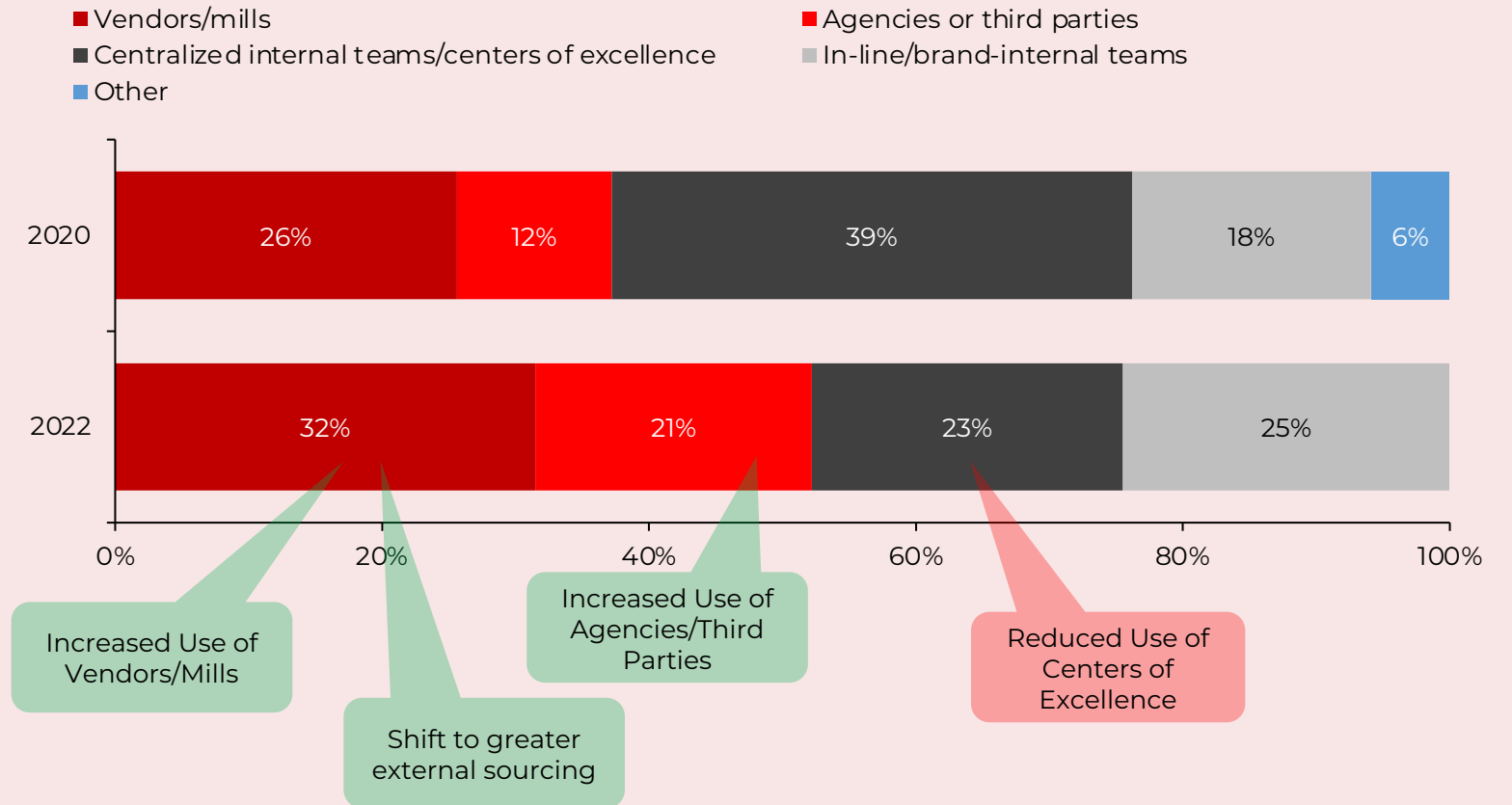
Totals may not sum to 100 due to rounding
Base: Retail industry decision makers
Source: Kalypso/Coresight Research

3D Assets

We now see increased use of external 3D asset resources, from 38% to 53%.

We also see reduced use of internal centers of excellence, from 39% to 23%.

Figure 22. 3D Assets Resource Use: 2020 Survey Versus 2022 Survey



Totals may not sum to 100 due to rounding

Base: Retail industry decision makers

Source: Kalypso/Coresight Research and Prior Kalypso Studies

What We Think

Ubiquity of Adoption

- Retailing has been undergoing a rapid change due to the adoption of digital technologies—and the rate of change has surged amid the pandemic due to reduced workplace and customer interactions.
- DPC technologies will become ubiquitous among larger retailers and suppliers in the next few years, likely driving secondary adoption among smaller supply chain providers.
- Retailers and retail vendors must focus on digital investments to avoid being left behind.

DPC Market Potential

- The 90%+ of respondents saying that they will be adopting DPC technologies raises an issue regarding market saturation: once market penetration reaches 90% or more, does this suggest that market growth will begin to slow?
- We believe that the dynamics of the DPC market will shift to the adoption of newer/more advanced technologies replacing legacy systems.
- This is seen in the survey results, which point out that 90%+ of companies plan to invest in DPC within 24 months, but the adoption of critical DPC supporting technologies is only in the 30%–50% range.
- As a result, we see DPC as a rapidly growing market in the years to come.

Implementation

- Our survey shows that there are two key implementation issues that companies need to deal with regarding DPC:
 1. The first is whether to implement using internal or external resources. The survey indicates that there is roughly a 50/50 internal/external mix. However, the satisfaction with results is clearly in favor of external resources. This is probably the result of external suppliers having more experience from seeing different retail chain situations and, therefore, being more capable of finding optimal solutions for a particular customer.
 2. The second issue is providing substantial enough resources to implement properly. This requires strong support from top management, sufficient funding to do the job properly and adequate talent to execute. Given that some of these issues were cited by 30%–50% of respondents as barriers to entry, they need to be addressed as part of a successful implementation plan.

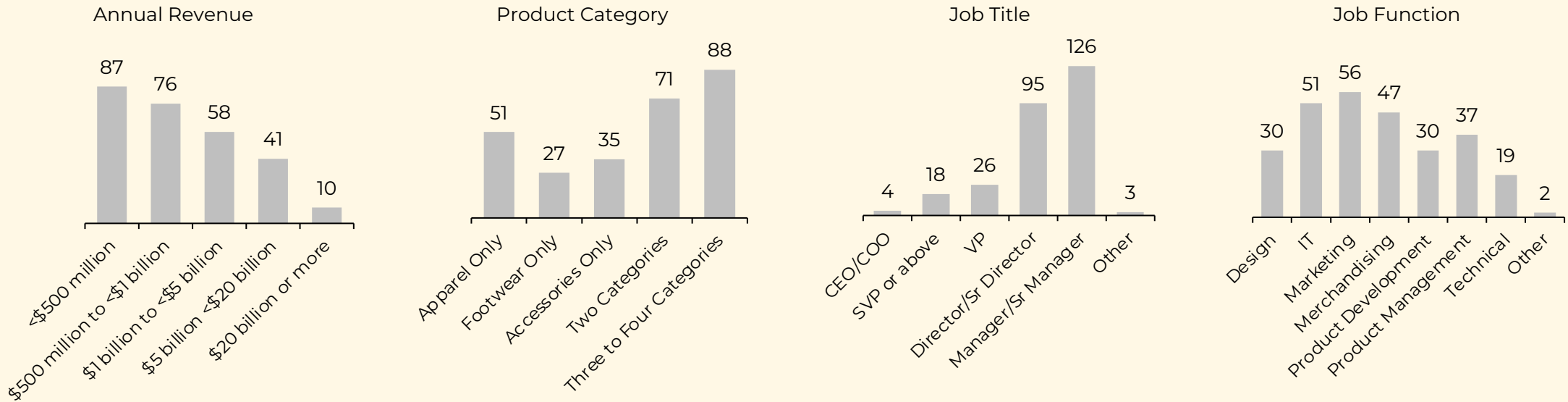
Methodology

Informing the data in this report is Coresight Research’s online survey of retail industry decision makers, conducted in December 2021—reflecting an 18-month period since the 2020 survey. We refer to it through the report as “the 2022 survey.” The respondents in the survey were from the apparel, footwear, accessories and home goods retail categories.

The 2019 and 2020 surveys were conducted in June of each year by Kalypso with the Interline and the Indiana University Kelley School of Business’s Center for Education and Research in Retail.

The 2019 and 2020 surveys involved a sample size of approximately 40+ clients (43 in 2020). In contrast, the 2022 survey sample comprised 272 respondents (non-clients), an increase of 6.3X. This greater sample size made it possible to assess the status of the overall market (rather than Kalypso clients exclusively) and conduct meaningful segment analysis (by company size in terms of annual revenue, product categories, job title and job function).

Figure 23. 2022 Survey: Respondents by Segment



Base: 272 retail industry decision makers
Source: Coresight Research

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