# Purchase price allocation study

December 2024

PPAnalyser

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# Introduction

- We are proud to present the eleventh edition of our Purchase Price Allocation study. This study presents statistics on publicly disclosed purchase price allocation studies and economic useful lives for the years 2021 and 2022. The source of this analysis is the PPAnalyser database. PPAnalyser is a subscription database which contains financial details of publicly disclosed purchase price allocations, discount rates and impairments. Besides purchase price allocation data, PPAnalyser also provides data on economic useful lives. For more information, visit www.ppanalyser.com.

- This analysis presents a selection of statistics. These include statistics for each industry, region and type of intangible. In addition, you will find statistics on economic useful lives.

- Should you have any questions or comments, please do not hesitate to contact us, info@ppanalyser.com.

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# Criteria & Methodology

- The source used for this study is the PPAnalyser database. PPAnalyser includes purchase price allocation data that was identified by searching for purchase price allocations disclosed in annual and quarterly reports.

- For the purpose of this study a selection of Purchase Price Allocations (PPA's) included in the database was made based on the following criteria:

  - Year: 2022 and 2021

  - Financial information disclosed: only PPAs were included that disclosed both the purchase price as well as the allocation of intangibles.

- Intangibles identified in the PPAs and discount rates were assigned to one of the following intangible categories:

  - Marketing related intangible assets
  - Customer related intangible assets
  - Artistic related intangible assets

  - Contract related intangibles
  - Technology related intangibles
  - Research & Development related intangibles

- All amounts were converted to USD using the average exchange rate for year 2021 and the year 2022.

- When analysing the proportion of tangible assets, intangible assets and goodwill compared to total assets, total assets is determined by summing up the value of each individual asset.

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# Criteria & Methodology

- We classified the PPAs and impairments into the following industry categories:

  - Agriculture, forestry and fishing

  - Construction

  - Finance, insurance and real estate

  - Manufacturing

  - Mining

  - Public administration

  - Retail trade

  - Services

  - Transportation and public utilities

  - Wholesale trade

- We segmented the allocation results across seven size categories (in USD x millions):

  - > 1,000

  - 500 - 1,000

  - 250 - 500

  - 100 - 250

  - 50 - 100

  - 25 - 50

  - < 25

- Consolidated statistics were determined based on percentages of the individual PPAs (i.e. not weighted).

- For economic useful lives a distinction is made between intangibles with definite and indefinite lifetimes. Both are disclosed and analysed separately.

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# Statistics
## Allocation based on transaction size

- The median purchase price in 2022 decreased by 12.1% compared to 2021, from approximately USD 63.0 million to USD 55.4 million. The number of transactions accounted for in the database also decreased in 2022. However, it should be noted that a significant proportion of transactions that occurred in 2022 are not yet disclosed in the annual reports of 2022 or 2023; therefore, a reporting delay exists and a smaller difference can be expected.

- Despite a decrease in overall median purchase price, the purchase price of transactions for most price categories increased. Only the purchase price of transactions less than USD 25 millions and transactions between USD 500 million, which decreased by 7.1% and 4.3%, respectively.

- The majority of PPAs included in this study are published in US annual reports. However, for 2022, the proportion of US-related PPAs in the database decreased by 8.2% compared to the previous year. The portion of European PPAs saw the biggest increase, from 5.4% in 2021 to 13.4% in 2022.

| | Number of transactions | | | |
| | 2022 | | 2021 | |
| Comparison | # | % of total | # | % of total |
|---|---|---|---|---|
| United States | 473 | 71.8% | 862 | 80.0% |
| Canada | 52 | 7.9% | 107 | 9.9% |
| Europe | 88 | 13.4% | 58 | 5.4% |
| Asia | 15 | 2.3% | 25 | 2.3% |
| Other | 31 | 4.7% | 26 | 2.4% |
| **Total** | **659** | | **1,078** | |

| | Transactions | | Median PP (x 1000) | | |
| | 2022 | 2021 | 2022 | 2021 | % change |
|---|---|---|---|---|---|
| PP > 1,000 | 77 | 117 | 2,496,776 | 2,187,054 | 14.2% |
| 500 < PP < 1,000 | 63 | 63 | 645,500 | 674,574 | -4.3% |
| 250 < PP < 500 | 51 | 118 | 344,129 | 328,239 | 4.8% |
| 100 < PP < 250 | 82 | 159 | 162,808 | 159,976 | 1.8% |
| 50 < PP < 100 | 67 | 139 | 72,265 | 68,155 | 6.0% |
| 25 < PP < 50 | 110 | 131 | 35,616 | 35,435 | 0.5% |
| PP < 25 | 209 | 351 | 7,259 | 7,817 | -7.1% |
| **Total** | **659** | **1,078** | **55,367** | **63,018** | |

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# Statistics
## Allocation across industries

- In 2022, the manufacturing sector accounted for the largest share of transactions, representing 37.5% of the total, followed by the service sector at 34.4%.

- Most industries experienced a significant decline in median purchase price in 2022 compared to 2021, aligning with the overall downward trend. The Transportation & Public Utilities sector recorded the largest decrease (-67.0%), while Retail Trade experienced the largest increase (38.7%).

- Notably, the industry with the most transactions in 2022, Manufacturing, has seen an increase in median purchase price of 17.1%.

| | Number of transactions | | | | Median purchase consideration | | |
|---|---|---|---|---|---|---|---|
| | 2022 | % of PPA's 2022 | 2021 | % of PPA's 2021 | 2022 | 2021 | % change |
| All industries | 659 | 100% | 1078 | 100% | 55,367 | 63,018 | -12.1% |
| | | | | | | | |
| Agriculture, Forestry, Fishing | 1 | 0.2% | 3 | 0.3% | - | - | - |
| Construction | 6 | 0.9% | 15 | 1.4% | - | 54,600 | - |
| Finance, Insurance, Real Estate | 81 | 12.3% | 97 | 9.0% | 135,510 | 139,741 | -3.0% |
| Manufacturing | 247 | 37.5% | 400 | 37.1% | 83,300 | 71,114 | 17.1% |
| Mining | 8 | 1.2% | 11 | 1.0% | - | 7,779 | - |
| Public Administration | - | - | 7 | - | - | - | - |
| Retail Trade | 20 | 3.0% | 44 | 4.1% | 82,500 | 59,484 | 38.7% |
| Services | 227 | 34.4% | 419 | 38.9% | 35,644 | 53,921 | -33.9% |
| Transportation & Public Utilities | 40 | 6.1% | 59 | 5.5% | 103,412 | 313,764 | -67.0% |
| Wholesale Trade | 29 | 4.4% | 23 | 2.1% | 34,848 | 62,000 | -43.8% |

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- Observations based on less than 10 transactions were not taken into account for this analysis.

# Statistics
## Allocation across intangibles

- The proportion of intangible assets (incl. goodwill) in relation to total assets decreased across all asset class sizes, with an average decrease of 7.0%. The most significant decrease can be observed for transactions with assets valued between USD 100 million and 250 million (-13.0%).

- Companies with total assets over USD 250 million experienced a modest decline, or even an increase in goodwill from 2022 to 2021. However, other intangible assets have seen a significant decrease in that size category.

- In contrast, for transactions of companies with total assets valued at less than USD 100 million, the percentage of other intangible assets remained relatively stable compared to 2021.

| | Int. asset % of total assets | | | Goodwill as % of total assets | | | Total Int. (incl. Goodwill) as % of total assets | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2022 | 2021 | % change | 2022 | 2021 | % change | 2022 | 2021 | % change |
| Total assets > 1,000 | 35.0% | 39.9% | -12.2% | 30.5% | 30.7% | -0.6% | 65.5% | 70.6% | -7.2% |
| 500 < Total assets < 1,000 | 38.1% | 40.9% | -6.8% | 31.5% | 32.5% | -3.2% | 69.6% | 73.4% | -5.2% |
| 250 < Total assets < 500 | 35.7% | 43.2% | -17.3% | 31.8% | 29.9% | 6.1% | 67.5% | 73.1% | -7.7% |
| 100 < Total assets < 250 | 40.4% | 46.9% | -13.7% | 28.1% | 31.9% | -11.8% | 68.6% | 78.8% | -13.0% |
| 50 < Total assets < 100 | 43.2% | 42.9% | 0.6% | 31.4% | 36.2% | -13.1% | 74.6% | 79.1% | -5.7% |
| 25 < Total assets < 50 | 42.1% | 41.0% | 2.6% | 32.0% | 33.7% | -4.9% | 74.1% | 74.6% | -0.8% |
| Total assets < 25 | 34.9% | 36.4% | -3.9% | 38.3% | 44.4% | -13.9% | 73.2% | 80.8% | -9.4% |
| **Average difference** | | | **-7.2%** | | | **-5.9%** | | | **-7.0%** |

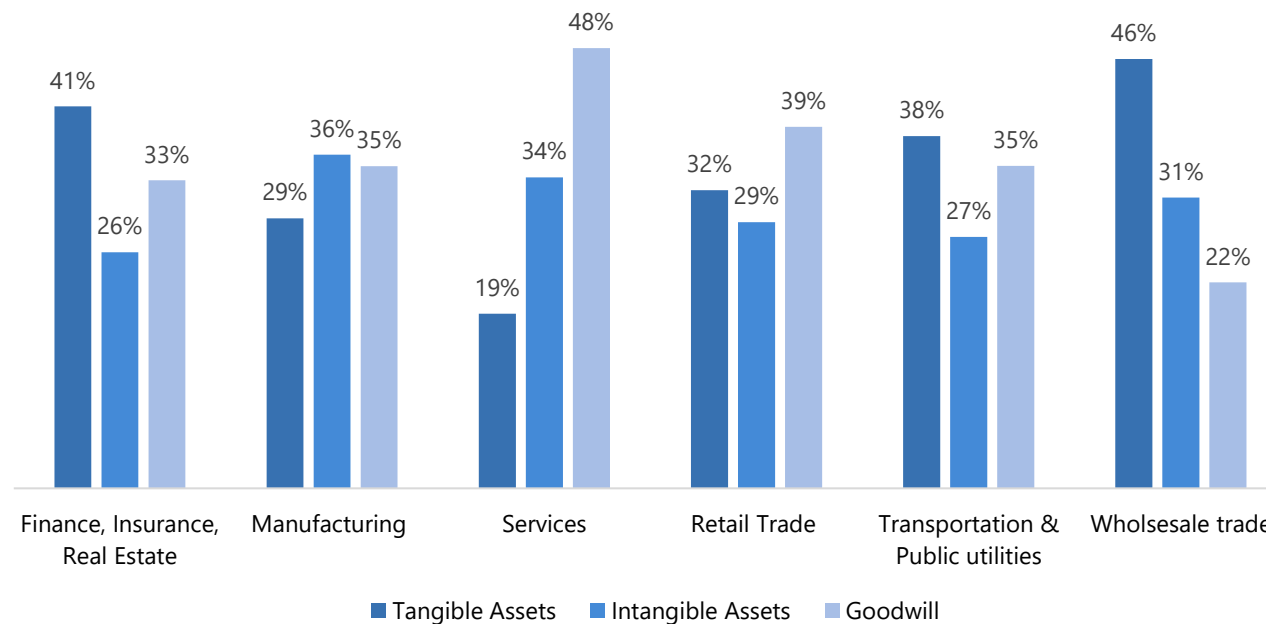PPAnalyser

# Statistics
## Allocation across geography

- The proportion of intangible assets (including goodwill) relative to total assets decreased across all geographical locations.

- In Asia, the most significant decline in the proportion of intangible assets was recorded (-32.1%), primarily due to a 55.8% reduction in goodwill from 2021 to 2022. Notably, intangible assets excluding goodwill actually increased year over year.

- In 2022, the United States was the only region where total intangible assets represented more than 70% of total assets, as this figure dropped to 65.5% in Europe and 65.3% in Canada.

- The largest disparity was observed between the United States and Asia, with intangible assets accounting for nearly 75% of total assets in the United States, compared to just 45.3% in Asia.

| | 2022 | | | 2021 | | |
|---|---|---|---|---|---|---|
| | Int. assets % of total assets | Goodwill as % of total assets | Total Int. (incl. Goodwill) as % of total assets | Int. assets % of total assets | Goodwill as % of total assets | Total Int. (incl. Goodwill) as % of total assets |
| United States | 34.3% | 39.3% | 73.6% | 36.5% | 39.3% | 75.8% |
| Canada | 30.0% | 35.5% | 65.5% | 38.6% | 36.0% | 74.6% |
| Europe | 29.6% | 35.7% | 65.3% | 34.0% | 36.2% | 70.2% |
| Asia | 24.9% | 20.4% | 45.3% | 20.5% | 46.3% | 66.8% |
| Other | 27.5% | 40.4% | 67.9% | 26.7% | 42.2% | 68.9% |
| **Total** | **29.3%** | **34.3%** | **63.5%** | **31.3%** | **40.0%** | **71.3%** |

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# Statistics
## Allocation across intangibles & industries

- In 2022, the industries with the highest proportion of intangible assets compared to total assets are the manufacturing (36%), the services (34%) and retail trade (34%) industries.

- Transactions with the highest proportion of goodwill were also observed in the services (48%), retail trade (39%), and manufacturing (35%) industries.

- The industries with the highest proportion of tangible assets compared to total assets are the wholesale (46%), the finance, insurance, and real estate (41%), and the transportation and public utilities (26%) industries.

- The industry with the lowest proportion of tangible assets to total assets is the services industry, with 19%.



Bar chart — percentage values by industry:

| Industry | Tangible Assets | Intangible Assets | Goodwill |
|---|---|---|---|
| Finance, Insurance, Real Estate | 41% | 26% | 33% |
| Manufacturing | 29% | 36% | 35% |
| Services | 19% | 34% | 48% |
| Retail Trade | 32% | 29% | 39% |
| Transportation & Public utilities | 38% | 27% | 35% |
| Wholsesale trade | 46% | 31% | 22% |

■ Tangible Assets  ■ Intangible Assets  ■ Goodwill

- Observations based on less than 10 transactions were not taken into account for this analysis.

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# Statistics
## Overview allocation across intangibles & industries

- The most frequently identified intangibles are customer, marketing and technology related intangibles. Contract, R&D and artistic related intangibles are observed less frequently.

- The proportion of marketing related intangibles to total assets is significantly higher in the retail trade (22.1%) compared to other industries.

- The average proportion of customer related intangibles to total assets is higher across most industries. The highest proportion can be observed wholesale trade (24.7%), and manufacturing (20.1%) industry.*

- The proportion of technology related intangibles to total assets is highest in the services (18.4%) and manufacturing (15.7%) industry. For the manufacturing industry, the average proportion of the R&D related intangible assets is highest across intangible assets,.

| 2022 | Count | | | | | | Intangible as a % of Total Assets | | | | | |
|------|-------|-------|------------|----------|-----|---------|-----------|----------|------------|----------|-----|---------|
| Comparison | Marketing | Customer | Technology | Contract | R&D | Artistic | Marketing | Customer | Technology | Contract | R&D | Artistic |
| Agriculture, Forestry, Fishing | 1 | 1 | 0 | 0 | 0 | 0 | - | - | - | - | - | - |
| Construction | 6 | 5 | 0 | 1 | 0 | 0 | - | - | - | - | - | - |
| Finance, Insurance, Real Estate | 33 | 61 | 18 | 28 | 1 | 0 | 6.4% | 18.0% | 14.9% | 14.3% | - | - |
| Manufacturing | 145 | 173 | 144 | 31 | 25 | 7 | 10.1% | 20.1% | 15.7% | 20.4% | 24.5% | - |
| Mining | 1 | 6 | 0 | 1 | 1 | 0 | - | - | - | - | - | - |
| Public Administration | - | - | - | - | - | - | - | - | - | - | - | - |
| Retail Trade | 12 | 11 | 9 | 9 | 0 | 1 | 22.1% | 8.5% | - | - | - | - |
| Services | 129 | 188 | 151 | 16 | 2 | 3 | 6.2% | 19.3% | 18.4% | 11.3% | - | - |
| Transportation & Public Utilities | 19 | 32 | 7 | 12 | 0 | 1 | 5.8% | 17.2% | - | 29.6% | - | - |
| Wholesale Trade | 15 | 26 | 2 | 1 | 0 | 0 | 7.5% | 24.7% | - | - | - | - |
| **Total** | **361** | **503** | **331** | **99** | **29** | **12** | | | | | | |

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- Observations based on less than 10 transactions were not taken into account for the analyses on this slide

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# Statistics – Economic Useful Lifes
## Disclosed definite and indefinite useful lives

- The proportion of PPAs with disclosed economic useful lives for intangible assets remained stable at approximately 53% in both 2021 and 2022

- However, the share of indefinite useful lives increased from 3.4% in 2021 to 5.2% in 2022.

- The indefinite useful lives, primarily associated with marketing-related intangibles, are excluded from further analysis of useful life data.

| # PPA with useful life disclosure | 2022 | | 2021 | |
|---|---|---|---|---|
| Comparison | # | % | # | % |
| Total PPA's | 659 | 100% | 1078 | 100% |
| Total PPA's with disclosed useful life | 348 | 52.8% | 576 | 53.4% |

| Useful lives (in)definite | 2022 | | 2021 | |
|---|---|---|---|---|
| Comparison | # | % | # | % |
| Definite useful lives | 722 | 94.8% | 1216 | 96.6% |
| Indefinite useful lives | 42 | 5.2% | 92 | 3.4% |
| **Total** | **764** | **100%** | **1308** | **100%** |

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# Statistics – Economic Useful Lifes
## Useful life per intangible asset

- In 2022, customer-related intangibles had the longest median economic useful life, with a median of 10 years.*

- Comparing 2022 to 2021, the median economic useful life for marketing-related intangibles saw a significant increase, rising from 5 to 8 years. In contrast, the median economic useful life for contract-related intangibles decreased by nearly 4 years.

- For technology and customer related intangibles, the median remained the same, while the lower and upper quartile increased for the latter.

| Interquartile range (in years) | 2022 | | | | 2021 | | | |
|---|---|---|---|---|---|---|---|---|
| Comparison | Lower | Median | Upper | Count | Lower | Median | Upper | Count |
| Marketing- related | 4.0 | 8.0 | 11.0 | **183** | 3.5 | 5.0 | 10.0 | **356** |
| Customer related intangible assets | 7.0 | 10.0 | 15.0 | **283** | 6.0 | 10.0 | 13.0 | **465** |
| Technology related intangible assets | 5.0 | 7.0 | 10.0 | **213** | 5.0 | 7.0 | 10.0 | **325** |
| Contract related intangible assets | 4.8 | 6.3 | 13.6 | **35** | 7.5 | 10.0 | 15.0 | **51** |
| R&D related intangible assets | - | - | - | **2** | 4.5 | 6.0 | 7.0 | **12** |
| Artistic related intangible assets | - | - | - | **6** | - | - | - | **7** |

- Observations based on less than 10 transactions were not taken into account for this analysis.

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# Statistics – Economic Useful Lifes
## Useful life per intangible asset and industry

- The median economic useful life attributed to marketing related intangibles is highest in the manufacturing industry (10 years) and significantly lower in finance, insurance & real estate industry and the service industry (5 and 6 years, respectively).*

- The economic useful life attributed to customer and technology related intangibles is also the highest in the manufacturing industry (12,5 and 10 years) and lowest in the services industry (9 and 5.6 years).

- The economic useful life of the customer related intangible assets is relatively consistent across industries, with a maximum difference of 3.5 years between the highest and lowest median values.

| | Marketing | Customer | Technology | Contract | R&D | Artistic | Marketing | Customer | Technology | Contract | R&D | Artistic |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2021 | Count of PPAs with eco. useful life | | | | | | Median Economic useful life (years) | | | | | |
| Agriculture, Forestry, Fishing | - | - | - | - | - | - | - | - | - | - | - | - |
| Construction | 2 | 3 | - | 1 | - | - | - | - | - | - | - | - |
| Finance, Insurance, Real Estate | 12 | 25 | 8 | 12 | - | - | 5.0 | 11.1 | - | 6.0 | - | - |
| Manufacturing | 75 | 120 | 98 | 9 | 1 | 3 | 10.0 | 12.5 | 10.0 | - | - | - |
| Mining | 1 | 2 | - | - | - | - | - | - | - | - | - | - |
| Public Administration | - | - | - | - | - | - | - | - | - | - | - | - |
| Retail Trade | 3 | 6 | 7 | 1 | - | - | - | - | - | - | - | - |
| Services | 77 | 106 | 94 | 8 | 1 | 2 | 6.0 | 9.0 | 5.6 | - | - | - |
| Transportation & Public Utilities | 9 | 12 | 5 | 4 | - | 1 | - | 9.5 | - | - | - | - |
| Wholesale Trade | 4 | 9 | 1 | - | - | - | - | - | - | - | - | - |
| **Total** | **183** | **283** | **213** | **35** | **2** | **6** | **8.0** | **10.0** | **7.0** | **6.3** | **-** | **-** |

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# About PPAnalyser

*PPAnalyser in an online subscription database developed and owned by Bridgeton Analytics B.V., a limited liability company based in Amsterdam, the Netherlands. Bridgeton Analytics develops, markets and distributes financial Analytics. Its main product is PPAnalyser, an online subscription database that includes data of over 13,000 purchase price allocation studies disclosed between 2007 and 2024. For more information visit www.ppanalyser.com.*

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