

SUPPLY CHAIN ANALYSIS

| A | B | C | D | E | F | G | H | I | J | K | L |
|--------------|-------|-------------|--------------|-------------------------|-------------------|-----------------------|--------------|------------|------------------|----------------|-------------------|
| Product type | SKU | Price | Availability | Number of products sold | Revenue generated | Customer demographics | Stock levels | Lead times | Order quantities | Shipping times | Shipping carriers |
| haircare | SKU0 | 69.80800554 | 55 | 802 | 8661.996792 | Non-binary | 58 | 7 | 96 | 4 | Carrier B |
| skincare | SKU1 | 14.84352328 | 95 | 736 | 7460.900065 | Female | 53 | 30 | 37 | 2 | Carrier A |
| haircare | SKU2 | 11.31968329 | 34 | 8 | 9577.749626 | Unknown | 1 | 10 | 88 | 2 | Carrier B |
| skincare | SKU3 | 61.16334302 | 68 | 83 | 7766.836426 | Non-binary | 23 | 13 | 59 | 6 | Carrier C |
| skincare | SKU4 | 4.805496036 | 26 | 871 | 2686.505152 | Non-binary | 5 | 3 | 56 | 8 | Carrier A |
| haircare | SKU5 | 1.699976014 | 87 | 147 | 2828.348746 | Non-binary | 90 | 27 | 66 | 3 | Carrier B |
| skincare | SKU6 | 4.078332863 | 48 | 65 | 7823.47656 | Male | 11 | 15 | 58 | 8 | Carrier C |
| cosmetics | SKU7 | 42.95838438 | 59 | 426 | 8496.103813 | Female | 93 | 17 | 11 | 1 | Carrier B |
| cosmetics | SKU8 | 68.71759675 | 78 | 150 | 7517.363211 | Female | 5 | 10 | 15 | 7 | Carrier C |
| skincare | SKU9 | 64.01573294 | 35 | 980 | 4971.145988 | Unknown | 14 | 27 | 83 | 1 | Carrier A |
| skincare | SKU10 | 15.70779568 | 11 | 996 | 2330.965802 | Non-binary | 51 | 13 | 80 | 2 | Carrier C |
| skincare | SKU11 | 90.63545998 | 95 | 960 | 6099.944116 | Female | 46 | 23 | 60 | 1 | Carrier A |
| haircare | SKU12 | 71.21338908 | 41 | 336 | 2873.741446 | Unknown | 100 | 30 | 85 | 4 | Carrier A |
| skincare | SKU13 | 16.16039332 | 5 | 249 | 4052.738416 | Male | 80 | 8 | 48 | 9 | Carrier A |
| skincare | SKU14 | 99.17132864 | 26 | 562 | 8653.570926 | Non-binary | 54 | 29 | 78 | 5 | Carrier B |
| skincare | SKU15 | 36.98924493 | 94 | 469 | 5442.086785 | Non-binary | 9 | 8 | 69 | 7 | Carrier B |
| skincare | SKU16 | 7.54717211 | 74 | 280 | 6453.797968 | Female | 2 | 5 | 78 | 1 | Carrier B |
| cosmetics | SKU17 | 81.46253437 | 82 | 126 | 2629.396435 | Female | 45 | 17 | 85 | 9 | Carrier C |
| haircare | SKU18 | 36.44362777 | 23 | 620 | 9364.673505 | Unknown | 10 | 10 | 46 | 8 | Carrier C |
| skincare | SKU19 | 51.12387009 | 100 | 187 | 2553.495585 | Unknown | 48 | 11 | 94 | 3 | Carrier A |
| skincare | SKU20 | 96.34107244 | 22 | 320 | 8128.027697 | Unknown | 27 | 12 | 68 | 6 | Carrier A |
| cosmetics | SKU21 | 84.89386898 | 60 | 601 | 7087.052696 | Unknown | 69 | 25 | 7 | 6 | Carrier B |
| haircare | SKU22 | 27.67978089 | 55 | 884 | 2390.807867 | Unknown | 71 | 1 | 63 | 10 | Carrier A |
| cosmetics | SKU23 | 4.324341186 | 30 | 391 | 8858.367571 | Unknown | 84 | 5 | 29 | 7 | Carrier A |
| haircare | SKU24 | 4.156308359 | 32 | 209 | 9049.077861 | Male | 4 | 26 | 2 | 8 | Carrier C |
| haircare | SKU25 | 39.62934399 | 73 | 142 | 2174.777054 | Male | 82 | 11 | 52 | 3 | Carrier C |
| haircare | SKU26 | 97.44694662 | 9 | 353 | 3716.493326 | Male | 59 | 16 | 48 | 4 | Carrier B |
| cosmetics | SKU27 | 92.55736081 | 42 | 352 | 2686.457224 | Unknown | 47 | 9 | 62 | 8 | Carrier C |
| cosmetics | SKU28 | 2.397274706 | 12 | 394 | 6117.324615 | Female | 48 | 15 | 24 | 4 | Carrier B |
| cosmetics | SKU29 | 63.44755919 | 3 | 253 | 8318.903195 | Female | 45 | 5 | 67 | 7 | Carrier B |
| haircare | SKU30 | 8.022859211 | 10 | 327 | 2766.342367 | Male | 60 | 26 | 35 | 7 | Carrier B |
| skincare | SKU31 | 50.84739305 | 28 | 168 | 9655.135103 | Male | 6 | 17 | 44 | 4 | Carrier B |
| skincare | SKU32 | 79.20993602 | 43 | 781 | 9571.550487 | Unknown | 89 | 13 | 64 | 4 | Carrier C |
| cosmetics | SKU33 | 64.795435 | 63 | 616 | 5149.99835 | Non-binary | 4 | 17 | 95 | 9 | Carrier C |
| skincare | SKU34 | 37.46759233 | 96 | 602 | 9081.710896 | Unknown | 1 | 26 | 21 | 7 | Carrier A |
| cosmetics | SKU35 | 84.95778682 | 11 | 449 | 6541.329345 | Female | 42 | 27 | 85 | 8 | Carrier C |
| skincare | SKU36 | 9.813002579 | 34 | 963 | 7573.402458 | Female | 18 | 23 | 28 | 3 | Carrier B |
| skincare | SKU37 | 23.39984475 | 5 | 963 | 2438.33993 | Female | 25 | 8 | 21 | 9 | Carrier A |
| cosmetics | SKU38 | 52.07593068 | 75 | 705 | 9692.31804 | Non-binary | 69 | 1 | 88 | 5 | Carrier B |
| skincare | SKU39 | 19.12747727 | 26 | 176 | 1912.465663 | Female | 78 | 29 | 34 | 3 | Carrier A |
| skincare | SKU40 | 80.54142417 | 97 | 933 | 5724.95935 | Female | 90 | 20 | 39 | 8 | Carrier C |
| skincare | SKU41 | 99.11329162 | 35 | 556 | 5521.205259 | Female | 64 | 19 | 38 | 8 | Carrier B |
| skincare | SKU42 | 46.52916761 | 98 | 155 | 1839.609426 | Female | 22 | 27 | 57 | 4 | Carrier C |
| haircare | SKU43 | 11.74327178 | 6 | 598 | 5737.425599 | Unknown | 36 | 29 | 85 | 9 | Carrier B |
| cosmetics | SKU44 | 51.35579091 | 34 | 919 | 7152.286049 | Female | 13 | 19 | 72 | 6 | Carrier C |
| haircare | SKU45 | 33.78413803 | 1 | 24 | 5267.956808 | Male | 93 | 7 | 52 | 6 | Carrier B |
| haircare | SKU46 | 27.0822072 | 75 | 859 | 2556.767361 | Non-binary | 92 | 29 | 6 | 8 | Carrier B |
| skincare | SKU47 | 95.71213588 | 93 | 910 | 7089.47425 | Male | 4 | 15 | 51 | 9 | Carrier B |
| haircare | SKU48 | 76.03554443 | 28 | 29 | 7397.071005 | Non-binary | 30 | 16 | 9 | 3 | Carrier C |
| cosmetics | SKU49 | 78.89791321 | 19 | 99 | 8001.613207 | Unknown | 97 | 24 | 9 | 6 | Carrier C |
| cosmetics | SKU50 | 14.20348426 | 91 | 633 | 5910.88539 | Female | 31 | 23 | 82 | 10 | Carrier A |
| haircare | SKU51 | 26.70076097 | 61 | 154 | 9866.465458 | Male | 100 | 4 | 52 | 1 | Carrier A |
| skincare | SKU52 | 98.03182966 | 1 | 820 | 9435.762609 | Male | 64 | 11 | 11 | 1 | Carrier B |
| skincare | SKU53 | 30.34147071 | 93 | 242 | 8232.334829 | Male | 96 | 25 | 54 | 3 | Carrier B |

SUPPLY CHAIN ANALYSIS

| M | N | O | P | Q | R | S | T | U | V | W | X |
|----------------|---------------|-----------|-----------|--------------------|-------------------------|---------------------|--------------------|--------------|----------------------|---------|-------------|
| Shipping costs | Supplier name | Location | Lead time | Production volumes | Manufacturing lead time | Manufacturing costs | Inspection results | Defect rates | Transportation modes | Routes | Costs |
| 2.956572139 | Supplier 3 | Mumbai | 29 | 215 | 29 | 46.27987924 | Pending | 0.226410361 | Road | Route B | 187.7520755 |
| 9.716574771 | Supplier 3 | Mumbai | 23 | 517 | 30 | 33.61676895 | Pending | 4.854068026 | Road | Route B | 503.0655791 |
| 8.054479262 | Supplier 1 | Mumbai | 12 | 971 | 27 | 30.68801935 | Pending | 4.580592619 | Air | Route C | 141.9202818 |
| 1.729568564 | Supplier 5 | Kolkata | 24 | 937 | 18 | 35.6247414 | Fail | 4.746648621 | Rail | Route A | 254.7761592 |
| 3.890547916 | Supplier 1 | Delhi | 5 | 414 | 3 | 92.0651606 | Fail | 3.145579523 | Air | Route A | 923.4406317 |
| 4.444098864 | Supplier 4 | Bangalore | 10 | 104 | 17 | 56.76647556 | Fail | 2.779193512 | Road | Route A | 235.4612367 |
| 3.880763303 | Supplier 3 | Kolkata | 14 | 314 | 24 | 1.08506857 | Pending | 1.000910619 | Sea | Route A | 134.3690969 |
| 2.348338784 | Supplier 4 | Bangalore | 22 | 564 | 1 | 99.4661086 | Fail | 0.398177187 | Road | Route C | 802.0563118 |
| 3.404733857 | Supplier 4 | Mumbai | 13 | 769 | 8 | 11.42302714 | Pending | 2.709862691 | Sea | Route B | 505.5571342 |
| 7.166645291 | Supplier 2 | Chennai | 29 | 963 | 23 | 47.95760163 | Pending | 3.844614479 | Rail | Route B | 995.9294615 |
| 8.673211211 | Supplier 5 | Kolkata | 18 | 830 | 5 | 96.52735279 | Pass | 1.727313928 | Road | Route B | 806.1031777 |
| 4.523943124 | Supplier 2 | Kolkata | 28 | 362 | 11 | 27.59236309 | Pending | 0.021169821 | Air | Route A | 126.7230334 |
| 1.32527401 | Supplier 4 | Kolkata | 3 | 563 | 3 | 32.32128621 | Fail | 2.161253748 | Road | Route B | 402.9687891 |
| 9.537283061 | Supplier 5 | Bangalore | 23 | 173 | 10 | 97.82905011 | Pending | 1.63107423 | Road | Route B | 547.2410052 |
| 2.039770189 | Supplier 1 | Kolkata | 25 | 558 | 14 | 5.79143663 | Pending | 0.100682852 | Air | Route B | 929.23529 |
| 2.422039723 | Supplier 1 | Bangalore | 14 | 580 | 7 | 97.12128175 | Pass | 2.264405761 | Sea | Route B | 127.8618 |
| 4.191324586 | Supplier 1 | Bangalore | 3 | 399 | 21 | 77.1063425 | Pass | 1.012563089 | Air | Route A | 865.5257798 |
| 3.585418958 | Supplier 1 | Chennai | 7 | 453 | 16 | 47.67968037 | Fail | 0.102020755 | Air | Route C | 670.9343908 |
| 4.339224714 | Supplier 2 | Kolkata | 18 | 374 | 17 | 27.1078085 | Pending | 2.231939111 | Sea | Route A | 593.4802587 |
| 4.742635883 | Supplier 4 | Chennai | 20 | 694 | 16 | 82.37332059 | Fail | 3.646450865 | Road | Route C | 477.3076311 |
| 8.878334651 | Supplier 1 | Chennai | 29 | 309 | 6 | 65.68625961 | Pass | 4.231416574 | Air | Route B | 493.8712153 |
| 6.037883769 | Supplier 5 | Chennai | 19 | 791 | 4 | 61.73572895 | Pending | 0.018607568 | Air | Route C | 523.3609147 |
| 9.567648921 | Supplier 4 | Kolkata | 22 | 780 | 28 | 50.12083961 | Fail | 2.591275473 | Rail | Route C | 205.5719958 |
| 2.924857601 | Supplier 5 | Kolkata | 11 | 568 | 29 | 98.60995724 | Pending | 1.342291563 | Rail | Route A | 196.3294461 |
| 9.741291689 | Supplier 2 | Bangalore | 28 | 447 | 3 | 40.3823597 | Pending | 3.691310293 | Air | Route A | 758.7247726 |
| 2.231073681 | Supplier 4 | Kolkata | 19 | 934 | 23 | 78.28088312 | Pending | 3.797231217 | Road | Route B | 458.5359457 |
| 6.507548621 | Supplier 2 | Bangalore | 26 | 171 | 4 | 15.97222976 | Pass | 2.119319737 | Rail | Route A | 617.8669165 |
| 7.406750953 | Supplier 5 | Mumbai | 25 | 291 | 4 | 10.52824507 | Fail | 2.864667838 | Sea | Route B | 762.4591822 |
| 9.898140508 | Supplier 1 | Mumbai | 13 | 171 | 7 | 59.42938181 | Fail | 0.815757079 | Air | Route A | 123.4370275 |
| 8.100973145 | Supplier 1 | Kolkata | 16 | 329 | 7 | 39.29287559 | Pass | 3.878098937 | Road | Route B | 764.9353759 |
| 8.954528315 | Supplier 4 | Kolkata | 27 | 806 | 30 | 51.6348934 | Pending | 0.965394705 | Road | Route C | 880.0809882 |
| 2.679660965 | Supplier 3 | Chennai | 24 | 461 | 8 | 60.25114566 | Pending | 2.989000007 | Rail | Route C | 609.3792066 |
| 6.599104901 | Supplier 3 | Kolkata | 30 | 737 | 7 | 29.69246715 | Pass | 1.946036119 | Road | Route A | 761.1739095 |
| 4.858270503 | Supplier 5 | Chennai | 1 | 251 | 23 | 23.85342751 | Fail | 3.541046012 | Sea | Route A | 371.2552955 |
| 1.019487571 | Supplier 1 | Chennai | 4 | 452 | 10 | 10.75427282 | Pass | 0.646604559 | Road | Route B | 510.3580004 |
| 5.28818999 | Supplier 1 | Delhi | 3 | 367 | 2 | 58.00478704 | Pass | 0.541154098 | Sea | Route C | 553.4204712 |
| 2.107951267 | Supplier 2 | Delhi | 26 | 671 | 19 | 45.53136424 | Fail | 3.805533379 | Air | Route C | 403.8089742 |
| 1.532655274 | Supplier 3 | Kolkata | 24 | 867 | 15 | 34.34327747 | Pending | 2.610288085 | Sea | Route A | 183.932968 |
| 9.235931437 | Supplier 5 | Mumbai | 10 | 841 | 12 | 5.930693646 | Pending | 0.613326899 | Air | Route B | 339.6728699 |
| 5.562503779 | Supplier 2 | Kolkata | 30 | 791 | 6 | 9.005807429 | Fail | 1.451972204 | Air | Route B | 653.6729946 |
| 7.22959514 | Supplier 1 | Kolkata | 18 | 793 | 1 | 88.1794071 | Pending | 4.213269431 | Road | Route A | 529.808724 |
| 5.773263744 | Supplier 4 | Chennai | 18 | 892 | 7 | 95.33206455 | Fail | 0.045302262 | Sea | Route A | 275.5243711 |
| 7.526248327 | Supplier 5 | Bangalore | 26 | 179 | 7 | 96.42282064 | Fail | 4.939255289 | Road | Route A | 635.6571205 |
| 3.694021268 | Supplier 5 | Mumbai | 1 | 206 | 23 | 26.27736596 | Pending | 0.372304768 | Air | Route A | 716.0441198 |
| 7.577449657 | Supplier 2 | Delhi | 7 | 834 | 18 | 22.55410662 | Fail | 2.96262632 | Rail | Route A | 610.4532696 |
| 5.215155009 | Supplier 2 | Chennai | 25 | 794 | 25 | 66.31254444 | Pass | 3.219604612 | Rail | Route A | 495.305697 |
| 4.070955837 | Supplier 3 | Chennai | 18 | 870 | 23 | 77.32235321 | Pending | 3.648610593 | Road | Route B | 380.4359371 |
| 8.978750756 | Supplier 1 | Kolkata | 10 | 964 | 20 | 19.71299291 | Pending | 0.380573587 | Rail | Route A | 581.6023551 |
| 7.095833157 | Supplier 2 | Mumbai | 9 | 109 | 18 | 23.12636358 | Fail | 1.698112541 | Rail | Route B | 768.651914 |
| 2.505621033 | Supplier 5 | Delhi | 28 | 177 | 28 | 14.14781544 | Pass | 2.825813985 | Rail | Route A | 336.8901685 |
| 6.247860915 | Supplier 2 | Delhi | 20 | 306 | 21 | 45.17875792 | Fail | 4.754800805 | Rail | Route B | 496.2486503 |
| 4.783000558 | Supplier 5 | Bangalore | 18 | 673 | 28 | 14.19032834 | Pending | 1.772951172 | Road | Route A | 694.9823176 |
| 8.63105218 | Supplier 1 | Mumbai | 10 | 727 | 27 | 9.166849149 | Pending | 2.122471619 | Air | Route C | 602.8984988 |
| 1.019487571 | Supplier 1 | Delhi | 4 | 452 | 10 | 10.75427282 | Pass | 0.646604559 | Road | Route B | 510.3580004 |