

| Cost Effectiveness | | | | |
|--------------------|--|---|----------|-----------|
| Metric Group ID | Metric Name | Metric Formula | KPI Flag | PCF ID |
| 103616 | Total cost to perform the process "design, build, and evaluate products and services" per \$1,000 revenue | 193.0440f / (193.0050 * 0.0010) | а | 10080 |
| 103683 | Total cost to generate new product/service ideas per \$1,000 revenue | 193.0430f / (193.0050 * 0.0010) | а | 10003 |
| 103764 | Total cost to support product manufacturing or service delivery per \$1,000 revenue | 193.0460f / (193.0050 * 0.0010) | а | 10003 |
| 103926 | Total cost to perform the process "test market for new or revised products and services" per \$1,000 revenue | 193.0450f / (193.0050 * 0.0010) | а | 10081 |
| 104006 | Total cost to perform product development per \$1,000 revenue | (193.0430f + 193.0440f + 193.0450f + 193.0460f) / (193.0050 * 0.0010) | а | 10003 |
| 100265 | Average project cost of existing product/service improvements and extensions from start of the process "design, build, and evaluate products and services" through support product manufacturing or service delivery process | 193.0350 | | 10003 |
| 100273 | Average project cost of new product/service developments from start of the process "design, build, and evaluate products and services" through support product manufacturing or service delivery process | 193.0360 | | 10003 |
| 101481 | Other cost to perform the process "design, build, and evaluate products and services" per \$1,000 revenue | 193.0440d / (193.0050 * 0.0010) | | 10080 |
| 101489 | Other cost to generate new product/service ideas per \$1,000 revenue | 193.0430d / (193.0050 * 0.0010) | | 10003 |
| 101504 | Other cost to support product manufacturing or service delivery per \$1,000 revenue | 193.0460d / (193.0050 * 0.0010) | | 10003 |
| 101519 | Other cost to perform the process "test market for new or revised products and services" per \$1,000 revenue | 193.0450d / (193.0050 * 0.0010) | | 10081 |
| 101615 | Outsourced cost to perform the process "design, build, and evaluate products and services" per \$1,000 revenue | 193.0440e / (193.0050 * 0.0010) | | 10080 |
| 101620 | Outsourced cost to generate new product/service ideas per \$1,000 revenue | 193.0430e / (193.0050 * 0.0010) | | 10003 |
| 101628 | Outsourced cost to support product manufacturing or service delivery per \$1,000 revenue | 193.0460e / (193.0050 * 0.0010) | | 10003 |

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| Cost Effectiveness Metric Group ID | Metric Name | Metric Formula KPI I | | PCF |
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| 101631 | Outsourced cost to perform the process "test market for new or revised products and services" per \$1,000 revenue | 193.0450e / (193.0050 * 0.0010) | | 10081 |
| 101680 | Overhead cost to perform the process "design, build, and evaluate products and services" per \$1,000 revenue | 193.0440c / (193.0050 * 0.0010) | | 10080 |
| 101692 | Overhead cost to generate new product/service ideas per \$1,000 revenue | 193.0430c / (193.0050 * 0.0010) | | 10003 |
| 101707 | Overhead cost to support product manufacturing or service delivery per \$1,000 revenue | 193.0460c / (193.0050 * 0.0010) | | 10003 |
| 101722 | Overhead cost to perform the process "test market for new or revised products and services" per \$1,000 revenue | 193.0450c / (193.0050 * 0.0010) | | 10081 |
| 102458 | Percentage of research and development (R&D) cost related to new product development projects | 193.0140 | | 10003 |
| 102460 | Percentage of research and development (R&D) cost related to product improvements and extensions | (100 - 193.0140) | | 10003 |
| 102895 | Personnel cost to perform the process "design, build, and evaluate products and services" per \$1,000 revenue | 193.0440a / (193.0050 * 0.0010) | | 10080 |
| 102926 | Personnel cost to generate new product/service ideas per \$1,000 revenue | 193.0430a / (193.0050 * 0.0010) | | 10003 |
| 102968 | Personnel cost to support product manufacturing or service delivery per \$1,000 revenue | 193.0460a / (193.0050 * 0.0010) | | 10003 |
| 103042 | Personnel cost to perform the process "test market for new or revised products and services" per \$1,000 revenue | 193.0450a / (193.0050 * 0.0010) | | 10081 |
| 103139 | Research and development (R&D) cost per \$1,000 revenue | 193.0070 / (193.0050 * 0.0010) | | 10003 |
| 103141 | Research and development (R&D) cost related to new product development projects per \$1,000 revenue | ((193.0140 * 193.0070) / (193.0050 * 0.0010)) * 0.010 | | 10003 |
| 103143 | Research and development (R&D) cost related to product improvements and extensions per \$1,000 revenue | (193.0140 * -0.01 + 1 * 193.0070) / (193.0050 * 0.0010) | | 10003 |



| Cost Effectiveness | | | | |
|--------------------|---|--------------------------------------|----------|-----------|
| Metric Group ID | Metric Name | Metric Formula | KPI Flag | PCF ID |
| 103252 | Systems cost to perform the process "design, build, and evaluate products and services" per \$100,000 revenue | 193.0440b / (193.0050 * 0.000010) | | 10080 |
| 103284 | Systems cost to generate new product/service ideas per \$100,000 revenue | 193.0430b / (193.0050 * 0.000010) | | 10003 |
| 103314 | Systems cost to support product manufacturing or service delivery per \$100,000 revenue | 193.0460b / (193.0050 * 0.000010) | | 10003 |
| 103370 | Systems cost to perform the process "test market for new or revised products and services" per \$100,000 revenue | 193.0450b / (193.0050 * 0.000010) | | 10081 |
| 103691 | Total cost to generate new product/service ideas per total number of concepts (predesign phase) | 193.0430f / 193.0150 | | 10003 |
| Process Efficiency | | | | |
| Metric Group ID | Metric Name | Metric Formula | KPI Flag | PCF ID |
| 101238 | Number of FTEs in product development per \$1 billion revenue | 193.0410 / (193.0050 * 0.000000001) | а | 10003 |
| 101985 | Percentage of existing product/service improvement and extension projects launched on budget | 193.0390 | а | 10003 |
| 101987 | Percentage of existing product/service improvement and extension projects launched on time | 193.0330 | а | 10003 |
| 102308 | Percentage of new product/service development projects launched on budget | 193.0400 | а | 10003 |
| 102310 | Percentage of new product/service development projects launched on time | 193.0340 | а | 10003 |
| 102527 | Percentage of sales due to product/services launched in the past year | 193.0180 | а | 10003 |
| 100996 | Number of FTEs that perform the process "design, build, and evaluate products and services" per \$1 billion revenue | 193.0420b / (193.0050 * 0.000000001) | | 10080 |
| 101028 | Number of FTEs to generate new product/service ideas per \$1 billion revenue | 193.0420a/(193.0050 * 0.000000001) | | 10003 |
| 101069 | Number of FTEs to support product manufacturing or service delivery per \$1 billion revenue | 193.0420d / (193.0050 * 0.000000001) | | 10003 |

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| Process Efficiency | | | | |
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| Metric Group ID | Metric Name | Metric Formula | KPI Flag | PCF ID |
| 101150 | Number of FTEs that perform the process "test market for new or revised products and services" per \$1 billion revenue | 193.0420c / (193.0050 * 0.000000001) | | 10081 |
| 102407 | Percentage of product/service development projects launched as commercial products/services | 193.0170 | | 10003 |
| 103125 | Ratio of the number of total projects to total concepts | 193.0160 / 193.0150 | | 10003 |
| Cycle Time | | | | |
| Metric Group ID | Metric Name | Metric Formula | KPI Flag | PCF ID |
| 100381 | Average time-to-profitability in months for existing product/service improvement and extension projects | 193.0370 | а | 10003 |
| 100383 | Average time-to-profitability in months for new product/service development projects | 193.0380 | а | 10003 |
| 103475 | Average time-to-market in days for existing product/service improvement and extension projects | 193.310 | а | 10003 |
| 103476 | Average time-to-market in days for new product/service development projects | 193.0320 | а | 10003 |
| 100664 | Design cycle time in days from start of "design, build, and evaluate products and services" through completion of test market product/service for existing product/service improvement and extension projects | 193.029 | | 10003 |
| 100665 | Design cycle time in days from start of "design, build, and evaluate products and services" through completion of test market product/service for new product/service development projects | 193.0300 | | 10003 |



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