Cost based optimization technique

Cost based optimization is a query optimization technique where the database management techniques. Evaluates multiple execution plans and select the one with the lowest estimated cost. Cost are determined using statistical information such as table size, index selectivity and join cardinality. By considering I/O, CPU and memory usage. CBO improves query efficiency and system performance. Unlike rule-based optimization, it adapts to varying data distribution, ensuring scalability and accuracy. This makes it crucial for enterprise application where query workload optimization significantly impacts response time and resource utilization (Garcia Molina, 2008)

## Bibliography

Garcia Molina, U., 2008. *Database Systems: the complete book.* 2nd ed. s.l.:Pearson.