| Evolutionary<br>Step                        | <b>Business Question</b>   | Enabling<br>Technologies  | Product<br>Providers                                   | Characteristi<br>cs                                  |
|---|--|---|--|--|
| Data Collection<br>(1960s)                  | "What was my total revenue in the last five years?"                      | Computers, tapes, disks   | IBM, CDC   | Static data<br>delivery                              |
| Data Access<br>(1980s)                      | "What were unit sales in Wisconsin last March?"                          | RDBMS, Structured<br>Query Language<br>(SQL)                                    | Oracle, Sybase, Informix,IBM, Microsoft                | Dynamic data<br>delivery at<br>record level          |
| Data Warehousing & Decision Support (1990s) | "What were unit sales in Wisconsin last March? Drill down to Green Bay." | On-line analytic processing (OLAP), multidimensional databases, data warehouses | Pilot,<br>Comshare,<br>Arbor, Cognos,<br>Microstrategy | Dynamic data<br>delivery at<br>multiple<br>levels    |
| Data Mining<br>(Today and<br>Future)        | "What's likely to happen to Green Bay unit sales next month? Why?"       | Advanced algorithms, multiprocessor computers, massive databases                | IBM, SAS,<br>Oracle, SGI,<br>startups                  | Prospective,<br>proactive<br>information<br>delivery |