

Between 1980 and 1992, 51 inventions (or 40% of the 129 that had achieved sales) were manufactured and marketed by the inventor's existing company (Fig. 3.2). A comparable number (50 inventions) were commercialized by a new venture. Licensing was the least common mode of commercialization, being used by only 39 (or 30%) of the commercialized inventions. These percentages sum to 109% because 11 ERIP technologies have been commercialized via licensing agreements and sales through the inventor's new venture (N=6) or existing company (N=5).

The percentage of ERIP technologies commercialized via licensing has decreased slightly since 1988. Over the same period, the percentage of technologies with sales through new ventures has increased somewhat, and the percentage of technologies with sales through pre-existing companies has remained fairly steady.

3.3 SALES OF ERIP TECHNOLOGIES

It is estimated that the total cumulative sales of ERIP technologies from 1980 through 1992 is \$622.7 million in current dollars (Table 3.4). The yearly sales reported for 1980 through 1990 differ somewhat from the sales reported in previous ORNL evaluations because the current evaluation has filled in some of the missing data for the 1980 to 1990 period, and in some cases the historic data have been corrected. The net effect is to increase by \$10 million (or about 2%) the estimated sales of ERIP technologies through 1990.

After a steady rise in annual sales of ERIP technologies between 1980 and 1983 (from \$19 million to \$38 million), annual sales leveled off at \$34 million in both 1984 and 1985. In 1986 annual sales jumped to \$61 million, bolstered significantly by several inventions that achieved substantial market shares. Between 1987 and 1990, annual sales leveled off between \$62 million and \$74 million. The \$50 million annual sales in 1991 represents a significant decrease from these historic rates, but 1992 brought annual sales up to \$60 million, which is about where they were prior to the 1991 downturn.

As is typical of new products and new technologies in general, there is great variation in the levels of sales generated by the ERIP technologies (Fig. 3.3). Cumulative sales of individual inventions range from \$2,400 to \$128 million through the end of 1992. Sixty-one (or almost half) of the inventions have had cumulative sales of less than \$500,000. The average cumulative sales of these 129 ERIP technologies is \$4.8 million, which is much larger than the median of \$565,000. The mean is much larger than the median because of the impact of a small number of highly successful technologies.