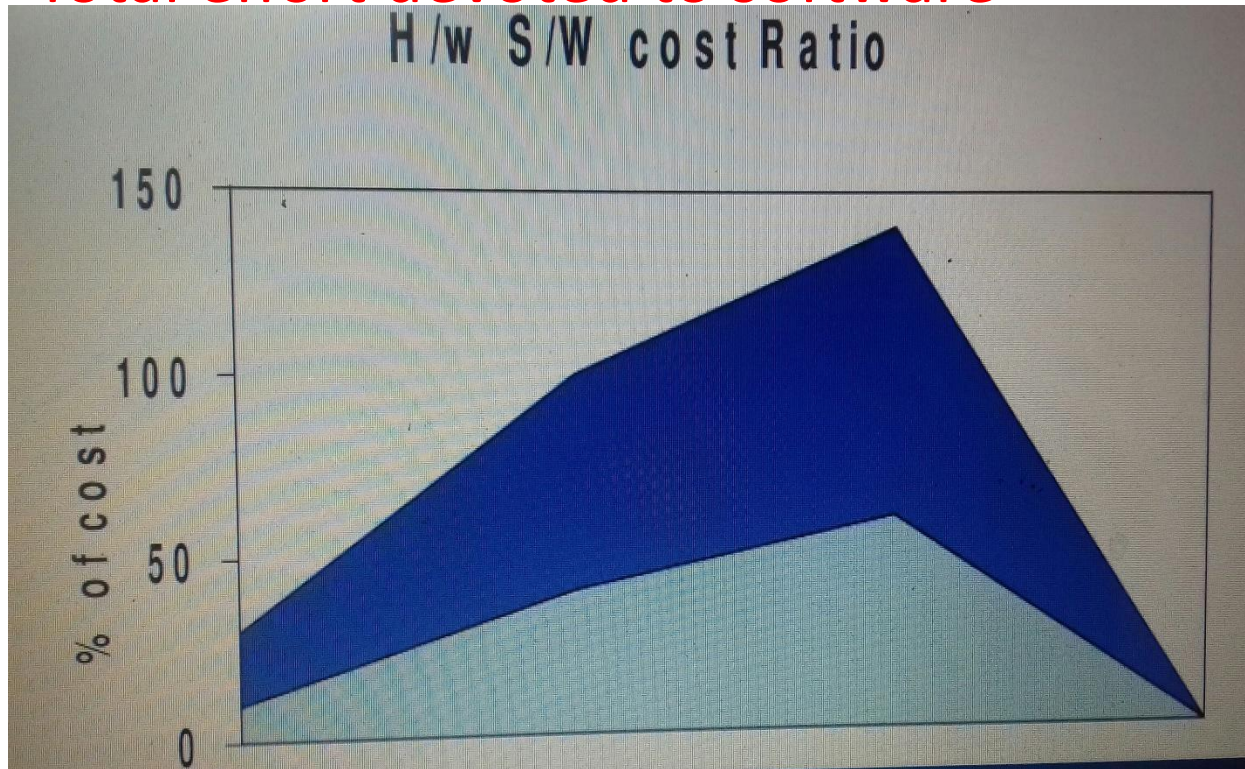


2 UNIT SOFTWARE COST FACTORS

Some size factors

- Total effort devoted to software



In 1960 the ratio was approximately 80% Hardware cost and 20% Software cost. In 1980 the ratio was reversed. 80 % for software cost and 20% for Hardware cost.

The reason is the transistors, Integrated circuits have resulted in dramatic decreases in Hardware cost.

Distribution of Effort:

Life cycle of Software

SOFTWARE COST FACTORS

- Estimating the cost of a software product is one of the most difficult and error tasks in a software engineering.
- The effects of most of these factors, and hence the cost of a development or maintenance effort, are difficult to estimate.
- Cost of development
- Maintenance

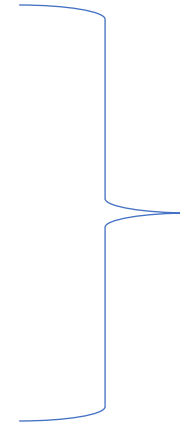
Programmer Ability

- programmer should have solve the problem
- programmer should have the ability to rectify the errors.
- Programmer should have the technical knowledge.

Product complexity

- There are three generally acknowledge categories of software products
- 1. Application programs which includes
 - Data processing –VB programming
 - Scientific programs – rocket launch
- 2. utility programmes
 - compilers
 - Linkage editors
 - Inventory system

- System level programs
- DBMS
- OS
- Applications Programs: $PM = 2.4 * (KDSI) ** 1.05$
- Utility Programs: $PM = 3.0 * (KDSI) ** 1.12$
- Systems Programs: $PM = 3.6 * (KDSI) ** 1.20$



Human
resource

No of
programmer
needed per
month

- The development time for a program, as given by Boehm, is
- Applications programs: $TDEV = 2.5 * (PM) ** 0.38$
- Utility programs: $TDEV = 2.5 * (PM) ** 0.35$
- Systems programs: $TDEV = 2.5 * (PM) ** 0.32$

Product Size

- A large software product is obviously more expensive to develop than a small one.
- **Available Time:**
 - Total Project effort is sensitive to the calendar time available for project completion.

Required Level of Reliability:

- . Reliability can be expressed in terms of
- Accuracy,
- robustness,
- completeness and
- consistency of the source code.