Inappropriate Computation Dilemma

A senior professional software engineer in a large firm is asked by management to make a decision about using a battery of computerized selection tests for hiring new employees. The firm has the opportunity to purchase specialized software which tests the competence of potential employees and makes predictions about their potential success as an employee of the firm.

The engineer's analysis generates the following assertions:

1. No computer program can possibly do the job of selecting new employees.

2. However, the accuracy of selecting good employees is the same for either human or computer selection; both do a terrible job.

3. The computer uses demographic information (such as owning a home, living less than five miles from work, membership in professional organizations, type of car driven) which increases accuracy of selection but is known to be bias and is technically illegal to use.

4. Removing the demographic information degrades performance of computer selection to almost random. If such information were strictly forbidden during interviews by a person, the selection accuracy of humans would also degrade to almost random.

5. Management is looking for a way to reduce selection costs. Computerized selection accomplishes this objective, while human selection does not.

6. If computerized selection is used, the personnel department can be reduced by 70%, saving the firm $80 million per year. Computerized selection costs about $20 million per year, human selection costs about $100 million per year.

Management gave the senior engineer the responsibility to make the implementation choice. There are three alternatives, all lead to the same personnel decisions and to the same overt corporate behavior.

Choice 1: Keep the personnel department and the selection processes the same.
Total cost: $100 million

Choice 2: Institute computerized selection, even though it is both bias and inefficient.
Total cost: $20 million

Choice 3: Select new employees randomly by computer.
Total cost: $1 million

What choice should he make? Is there a professional ethical issue here?

What if, instead of hiring for a job, the computerized questions were to determine whether or not a person should be given a home improvement loan (or issued a credit card)? Would your decisions be the same? Would the ethical issues be the same?