The intel pentium issue (ethics paper)

Engineering

The paper " Case against Intel Corporation in 1994" is an excellent example of an essay on business. This paper analyzes the case against Intel Corporation in 1994 when they released computers containing a flawed microprocessor with an added feature called the FPU. Intel's actions and responses will be compared against the guidelines set by the IEEEs code of ethics. An analysis of whether Intel broke some ethical bylaws and some reflections on what could have been done will be presented. Ethics Paper: The Intel Pentium Issue

Intel Corporation created the P5 Pentium microprocessors in 1994. It boasts of a new feature called the FPU or the “ floating-point unit,” which is widely known as the “ math coprocessor.” (1) It is the one that is responsible for making fast calculations of even complicated and long mathematical computations. However, the microprocessors flow in calculating long divisions causes minor errors not usually noticeable to most computer users. For example, the accurate answer for a division equation should be 2. 345678, but P5 will come up with the answer of 2. 345699. (1) The error is very minor, come to think of it, and Intel testers have realized and reported this problem to the Intel managers even before the microprocessor was released in the market that year. However, there was no significant reaction from the Intel managers to resolve the issue because “ no one would really notice the slight error.” Months after, math professor Thomas Nicely of Lynchburg College noticed an error during the calculation of “ reciprocals of a large collection of prime numbers on his Pentium-based computer.” (2) The professor wrote to Intel but did not receive any response from them, which prompted him to post on the internet about the issue. It then became a global issue against the corporation.

Obviously, bylaws seven and nine of the IEEE Code of ethics were broken in various ways. Bylaw nine states that every member of a corporation must, in all cases “ avoid injuring others, their property, reputation, or employment by false or malicious action.” (3) Intel failed to act along with this bylaw by deciding to release the flawed chip in the market despite previously knowing of its problem. Furthermore, Intel's decision to replace processors would have resolved a big chunk of the problem had they not insisted the customers to prove their eligibility for that. Intel should have taken into consideration that several of the Pentium-based computer users invested their hard-earned dollars for the device. It is very true that Intel would not intentionally desire harm the customers by the defective chip, however, even minor errors could affect the customers in several ways. For example, those who deal with numbers on a regular basis like brokers, economists, or even bankers would require accuracy in every number of calculation that they do. Even professors like Thomas Nicely and drug companies who test new drugs could be adversely affected by what Intel deemed as “ slight error.”

Additionally, bylaw seven states that every member of corporations must exhaust all means to “ seek, accept, and offer honest criticism of technical work, to acknowledge and correct errors, and to credit properly the contribution of others.” (3) When Intel testers informed the managers of the problem, the response did not go along what is stated in bylaw seven. They refused to admit making the mistake because it would definitely cause their company to lose millions of dollars. It was a total act of dishonesty to hope that the users of the newly released chip would not notice the flaw. It appears as if the managers decided to disregard the issue until problems

become obvious. Doing this placed several users of the Pentium-based computers at the risk of putting their crucial work at the hands of a flawed device covered-up by dishonesty.

Had Intel decided to act under the guideline provided by bylaw ten, the global issue against the company would not have happened. Bylaw ten states that “ to assist colleagues and co-workers in their professional development and to support them in following this code of ethics” (3) is a must for every member of a corporation. This answer the concept of one's obligation to do something about the case. Intel's “ top management” should have been informed of this flaw in the microprocessor. It would have prevented further release in the market of computers that have this error. It would have even saved Intel the millions of dollars they spent on replacing the computers after Prof. Nicely posted the case over the internet. It would have been morally and ethically correct decision.

As a personal reflection on this case, if an employee comes up to me regarding this, appearing nervous about the legal implications of “ burying the issue until someone notices” and wanting to go straight to the top management to discuss the case, I would have supported the employee's decision. In accordance with the ethical guidelines stated in bylaw ten, I would have discussed this matter with the concerned employee to aid him or her in making a strong case regarding the issue. It would be helpful to let the employee know further about bylaws nine and seven to support his or her stand on the matter.

Furthermore, if I was one of the managers who knew about this problem, I would not have hidden it from other members of the organization. I would push everyone to try and find out the root of the problem while at the same

time attempt to minimize risks, loses, and legal implications by doing something to “ hold” further release of the computers having this flawed chip. It is very possible that not many would go along with this action, but as the old adage says, “ prevention is always better than the cure.” It is possible that lower rank employees do not realize the magnitude of their responsibility toward integrity. Doing the right thing even though no one is looking would have caused Intel to lose some millions of dollars by stopping further release of the computers in the market, but it would have gained more in terms of respect. Obviously, hiding the issue did not really save Intel their money. It actually caused them to spend more, while at the same time earning the ire of the consumers. The hard-earned respect the corporation earned over the years should have not been put at risk by a simple need to save a few million. One has to realize the IEEEs code of ethics is not placed there merely for the benefit of the consumers. The ethical guidelines would benefit everyone in the long run.