Online Ethics Center
FOR ENGINEERING AND SCIENCE

Cost of Design Improvement

Author(s)

Michael Pritchard

Year

1992

Description

WPI begins production and ships the first portion of the order to GFI on time. GFI, at this point, is very happy with the component and wants WPI to ship the final three quarters of the order as soon as feasible. As Philip is working on the component he thinks of an apparent solution to the 'nagging problem' that bothered him in the design. It would involve a small change in the production process, while increasing the cost to three dollars more per component. Philip is convinced that, had they known about this improvement earlier, GFI would have wanted it.

Abstract

This case is one of thirty-two cases which address a wide range of ethical issues that can arise in engineering practice provided by the Center For the Study of Ethics in Society, Western Michigan University.

Body

I

Philip Harding is an engineer at a small family business called Wonder Products, Inc (WPI). The majority of WPI's work involves designing and producing parts for larger products that are sold by other companies. WPI is under contract to design and produce a complex component for General Farming Implements' (GFI) farm harvesting equipment.

Despite a nagging, though small, problem that does not find a 'perfect' solution, WPI designs the part to GFI's satisfaction, The price is set at $100 for each component. GFI orders 1000 components, with the likelihood that since things have gone so well, they will be talking to WPI and Philip about other contracts.

WPI begins production and ships the first portion of the order to GFI on time. GFI, at this point, is very happy with the component and wants WPI to ship the final three quarters of the order as soon as feasible. As Philip is working on the component he thinks of an apparent solution to the 'nagging problem' that bothered him in the design. It would involve a small change in the production process, while increasing the cost to three dollars more per component. Philip is convinced that, had they known about this improvement earlier, GFI would have wanted it.

Since he is in a rush to complete the order, Philip does not have much time to work on anything other than the order. Should Philip investigate this new idea immediately, or wait until he has more time to test it?

II

Philip decides to spend the weekend experimenting with his new idea. He quickly confirms the fact that the new design solves the problem. Philip brings the development to the attention of other members of WPI. He says that although they can fulfill the original contract and be safe from legal reproach if they say nothing to GFI, they have an ethical obligation to offer the new design to GFI immediately, whether or not WPI ends up picking up some of the costs for making changes. He contends that the flaw in the initial design was an oversight on WPI's part. "We contracted with GFI with the understanding that we would provide them with the best design we could come up with," Philip says. "So we ought to tell them about the improvement."

The financial manager of the company, Connie, expresses her concern about the three dollar per component cost increase. She says that they are working on a narrow profit margin now; and, although this only represents a one percent increase in cost, it adds up to $2250 plus costs associated with recalling and altering the components already sent to GFI. She thinks that WPI would be better off introducing the development if and when GFI makes another order.

Tim, in charge of Sales and Public Relations, suggests a compromise between the two. He suggests that they offer to share in the cost of the new product. Concerned with the image WPI projects, Tim worries about GFI later complaining about WPI not coming to them with the development during the first order. Although they could insist that the design change was not conceived of until after the first order was complete, there would always remain the doubt, indeed a correct doubt, that WPI held out on GFI by not offering them the best product. In the long term this could mean mistrust and, in the worst scenario, a severing of business ties between the two. "Granted," Tim acknowledges, "the withholding of this information would mean an increase in our short term income. But it could mean a disaster to our future with GFI--and a setback in our standing in the business community!"

They must now decide what it is best to do. What would you recommend that WPI do?

1. Tell GFI about the improvement and offer to share expenses for the improvement.
2. Tell GFI about the improvement and offer to pay the additional expenses for the improvement.
3. Tell GFI about the improvement and offer to make the improvement immediately if GFI is willing to take care of the additional expenses.
4. Not tell GFI about the improved design until after the order is completed.
5. Other. Explain your choice, commenting on the views expressed by Philip, Connie, and Tim.

III

The amount of money at stake in this case may seem quite small. Suppose a much larger amount were at stake (say, $600 per unit). Would this alter the way in which you think through the options in this case? Explain.

Notes

Originally titled: "A Wonderful Development."

Prepared with David Zacker.

Contributor(s)

Michael Pritchard

Editor(s)

Michael Pritchard

Rights

Use of Materials on the OEC

Resource Type

Case Study / Scenario

Parent Collection

Cases for Teaching Engineering Ethics

Topics

Corporate Social Responsibility
Engineer/Client Relationships
Social Responsibility
Workplace Ethics

Discipline(s)

Engineering

Publisher

Online Ethics Center
Authoring Institution
Center for the Study of Ethics in Society at Western Michigan University