

# CASE STUDY: Torsion Transfer Coupling Manufacture

## **Executive summary**

Ethics are identified as highly significant factor of professional development in any profession. When it comes to engineering education, ethic knowledge development is identified as essential aspect. Code of ethics is a statement that provide guidance to members of professional body to conduct profession with honesty and integrity. Code of conduct is more specific than code of ethics. Code of conduct highlight exact behavior that are practiced or forbidden within the particular profession. In this case study, there can be identified many violations of code of conducts in the Trueblood Enterprises. In this paper, this scenario is analyzed based on the code of ethics of the institution of engineers, Australia. It is discussed managerial, contractual and ethical issues of the given scenario. Further, it has been discussed that immediate action plans can be taken by engineer in the given situation.

## Table of Contents

Executive summary .....	2
1.0 Identification and discussion of issues.....	4
1.1 Managerial issues.....	4
1.2 Ethical issues and professional practice .....	5
1.3 Legal and contractual issues .....	6
1.4 Liability issues and intellectual property .....	7
2.0 Identification of courses of actions.....	7
References .....	9

## **1.0 Identification and discussion of issues**

### **1.1 Managerial issues**

One of main managerial issue is that Trueblood Enterprise decided to start the production even though design team doesn't fully satisfy with the design and analysis. According to case study, this happens due to production need to start to meet the timelines related to the contract. Company should have a prior idea about the production capacity of the company and they need to allocate design time according to that. Design phase is very critical in any engineering project and company need to allocate enough time and resources to design process and need to manage production capacity based on that. Companies need to consider all these factors before sign the agreement. Further company should have proper mechanism to deliver the production parts on time from the suppliers. If company has doubt about the design they need to provide consultation from the expertise to further clarification, however company just proceed with available design. Further, it seems like company doesn't focus on constraints and bottlenecks of the operational process.

Further management style and culture of the organization is not very healthy. According to William's attitude, it can be identified that there is a power culture in the organization which leader act with complete authority. In this kind of organization, higher management doesn't consider much about formal procedure and processes (Diaz, 2017). It can be assumed that there is no proper employment termination process since William said to Rohan and Peter that if this kind of thing are happened again he will sack them. Normally, companies which has power culture rely on personal communication, empathy and trust (Robbins, Judge and Vohra, 2013). However, it seems that there no open communication and trust between employees in Trueblood Enterprise. This can be clearly identified in the given scenario since Peter has to push Rohan by threatening that he directly go to William to set up the meeting with William to discuss the issues. Further, Rohan though that this issue reflect the poor performance of the sector which lead by him. These characteristics indicate the distrust between the employees and between employees and employer. In this scenario, there is no any indication of Claude's involvement for discussion after find out the issue. Head of manufacturing has ability to provide good inputs this discussion specially area such as cost estimate. This shows the lack of open communication between the employees. Further, there can be noticed role culture in the organization since employees are specialized based on the functions and there is lack of interaction between functions. This is indication of bureaucracy of the organization (Luthans, 2008). And it also seems that there were no direct communication

between Trueblood Enterprises and Cranbrook Excavators in design phase. If there were open communication between two companies, it could be able to share the knowledge and openly discuss the issues of the design and time constraint. Then it could be able to extend the timeline and improve the design.

William determine that the existing part is safe enough to use without conduct any technical assessment. Company need to take that decision after conduct proper technical assessment. William came to this decision since he think that company cannot afford the increase of the production cost. However, profit margin of exiting product is 16% (\$185/220). Profit margin of improved product is 7%. Assuming that design and manufacturing cost that mention in the case study cover all indirect cost and overhead cost and already supplied product can be fixed at the cost of \$ 205 excluding return cost, even though profit margin is decreased, improved part is still profitable. Therefore, Williams's argument is not really rational. Further, company need to consider long term customer profitability, rather than profitability of one transaction (Diasz, 2017). Trueblood Enterprise has tried long time to secure the contract with Cranbrook Excavator. If company expect to build up long term relationship with the customer, company need to provide genuine service of their level best. However, long term relationship with Cranbrook Excavator can be damaged due to low quality of the parts. If the industry get to know that, it will negatively affect to the goodwill of the company.

## **1.2 Ethical issues and professional practice.**

Ethical issues of this scenario can be discussed in various aspects. First aspect of codes of ethics of the institution of engineers, Australia is demonstrate integrity. According to that when notice something wrong, engineers need to act suitably and in a professional manner (Engineers Australia, 2018). Therefore, when company decided to start the production even though design and analysis team were not completely happy about the design is not agreed with the code of ethics. In this scenario, even though they haven't found specific issue, they need to be satisfied about the design before start the production. Initially, Rohan didn't agree to take any action once Peter shared his findings with him. This is a completely violation of the code of ethics. Engineers need to act on basis on well informed ethics. He was reluctant to bring this issue to William since he though blame comes to him and it will question his leadership. However, engineers need to accept the fair criticisms (National society of professional engineers, 2003). Further engineers need to

communicate effectively and honestly according to their code of ethics. Especially when identify issue related to engineering services, outcomes, risks or cost, they need to communicate timely and clearly (Engineers Australia, 2018). At this point, Peter did the right thing by further analyzed the design and fined the issue. However, according to code of ethics, engineers need to respect dignity of the all people. They need to treat them with courtesy and without harassment (Watkins, 2015). Therefore threatening to Rohan is against to the engineers' code of ethics.

Even though William is not an engineer, any businessman need to respect the values and ethics. William decided that not to recall the delivered products and also to continue the current production process even after identified the problem. Therefore he didn't act honestly and didn't act professional manner even once understand something to be wrong. Further William's relationship with employees is not professional. William need to give credit to employees who perform well. Therefore he need to give credit to Perter to put extra effort to identify the issue of the design. However, William blame both of them for performance of design and analysis division and it is not ethically right. Further, he warn them that they will be sacked from the company if something like this would be happened again in future. Employer need to respect the dignity of every employees. Therefore, it is ethically wrong that treat employees that way.

### **1.3 Legal and contractual issues**

According to contract law and relevant to engineering, contract is an agreement between two parties under the term of that one party agree to provide specific service and other party agree to pay for the service (Gana and Theophilus, 2016). Engineers have to deal with designs and products, technical concepts and law affects to those areas. According to scenario, contract between two companies specify that minimum fatigue life of the part need to be 20,000 hours. However, it is assumed that current part's fatigue life will be 15,000 hours. Therefore, there is clear breach of the contract. According to contract law, when one party breach the contract, other party is also released from the contractual obligations (Weerasooriya, 2010). Therefore, it could financially affect to Trueblood Enterprises. Further, Cranbrook Enterprises can get legal action against Trueblood Enterprises due to breaching the contract. On the other hand, ethically it is not right to disregard the contractual obligation.

On the other hand, according to laws related to employees, there need to follow specific procedure to terminate the employment. Peter or Rohan can get legal actions against the company if William sack them without following correct procedure.

#### **1.4 Liability issues and intellectual property.**

If any machine will be damaged due to low quality parts, customer can take legal action against the company to get the compensation. Initially, this happen due to professional negligence and then Trueblood Enterprises proceeded with same design with the knowledge of defect of the product. Therefore, company intentionally violate the contractual obligations and consequences can be much higher than professional negligence if it reveal. Even though company has product liability insurance which claims property damages or personal injuries caused by product sold or supplied from the company, it doesn't cover issues occur due to professional negligence and intentional attempts (Jackson, 2016).

According to intellectual property law, Trueblood Enterprises has copyright for designs developed under the company. Industrial design right cover under intellectual property law to protect the visual design of the objects (Akey, 2004). However, if company decide to outsource the design work, copyright of the design goes to designing company and Trueblood Enterprises only conduct the manufacturing part. In technological industry, design is more significant and that is the area that the technological companies focus on more. Therefore, if company only focus on manufacturing, company net worth will be reduced and competitive advantage of the company will be reduced.

Further, outsourcing decision need to make after conducting proper analysis on core competencies of the company and financial analysis. Outsource decision could be costly and reduce the control over designing process.

#### **2.0 Identification of courses of actions**

According to above analysis, it is very clear that there are many managerial, ethical and legal issues. As an individual, there are limited things can do considering managerial issues such as organizational culture. However, he can take several actions above this specific incident of the company.

Peter can develop a proper cost estimate with the support of head of manufacturing to identify the specific production cost of the improved part and discuss it with William. If William's main concern is the cost, Peter can show him that still it is profitable even though supplying improved parts. He try to convince him to focus on long term profitability rather than think about profitability of one transaction. Further, Peter need to explain to William about the consequences of breaching contractual obligations and financial impact if customer take legal actions. Further, he need to explain unethical aspects of his decision and how it is affected to reputation of the company.

First, Peter need put full effort to solve this issue internally and convince William to acknowledge the customer about the issue and ask them to return the already supplied products to fixed them and supply back. If there will be time issue, company need to negotiate with customer to get extra time for manufacturing.

If Peter cannot fix this issue internally then he can consider external solution since what William is trying to do is legally and ethically wrong. First, Peter need to decide not to involve this wrong practice. Further, he need to make sure gather right information about which ethics and contractual obligations are violated. Then he can report this to government agency or Institute of engineers with evident and inform customers through them. Resigning from the company without take any action is also appropriate since engineers need to take action if they know something to be wrong. Further, if he is mistreated as an employee, he can report to the authority and take actions against it.



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