

Quality management in production processes

[Business](#), [Management](#)



Different manufacturing companies apply different techniques and strategies in their production processes with the objectives of achieving high standards of quality possible for their products. The objectives of these manufacturing companies have been motivated by increased competition for markets, changing technological developments, environmental concerns, increased demand for resources and demands from both internal and external customers (Nielsen-Englyst, 2003).

This paper takes a deep insight into production processes of jewelry rings at Tiffany & Co. , with particular emphasis to needs assessment for quality improvement. Current Situation Founded way back in 1837, Tiffany & Co. is currently one of the most prolific jewelry manufactures with a worldwide network of shop outlets. The jewelry company is particularly famous for its thematic channel set engagement and wedding rings. The company's unique jewelry items are usually produced through a combination of manual and automated processes which ultimately culminate to authoritative brilliance of finished products.

Tiffany & Co. has notably eliminated the prevalence of symmetrical and consistency errors in its production services by adopting a computer aided technology for designing and creating rings. As a result, the computer aided production system has enabled the company to increase its production capacity by cutting down on production costs, reducing labor intensity and production errors. Currently, Tiffany's & Co. jewelry production process include: designing, programming, setting wax impressions, investment, melting, cast transformation, cleaning of casts, polishing, setting and quality check. These steps are observed as illustrated below:

- Designing marks the first step in the production process of Tiffany's & Co. jewelry. The company uses multi-dimensional computer software to design the shape and determine the components of rings. Special tailored or customized designs demanded by customers are also fed into the computers at this point.
 - The second stage of the jewelry production process involves programming, whereby the computer programs are coordinated to a printer that molds wax.
 - The creation of wax impression form the third phase and it is at this stage that the printer for molding wax creates rings in wax form.
 - The wax is then transferred to an investment, a jewelry production term that refers to a production slate.
 - A melting process which lasts overnight follows, resulting to the baking of the investment by way of clearing the wax from the ring's cavity.
 - The ring is then cast from the investment's cavity.
 - The cast is then cleaned extensively.
 - The ring is then hand-polished to achieve optimum brilliance.
 - Setting form the second last phase in the production process and it is at this stage that the rings are crafted by highly qualified staff to achieve sophisticated settings.
 - Quality control is the final phase in the production process of Tiffany & Co. jewelry rings. If the quality is approved by the quality assessment team, the rings are released to the distribution department.
- Tiffany's & Co. As-Is Flowchart Needs Assessment for Quality Improvement As much as the Tiffany & Co. has achieved marked improvements in its production process through the introduction of computer aided designs, the process is too rigid and cannot enable the company to achieve its strategic plan of expanding its market share through increased production and improved quality of its jewelry products.

For example, the feeding of customer design orders to the computer system at the design phase is evidence that the company's system does not provide adequate interaction between the company and its external customers. In effect, the company's is forced to use extra resources to feed the designs from the company's premises, a process that could be eliminated by simply adopting interactive management systems. As Nielsen-Englyst (2003) posited, the operation's functions of a firm can only be achieved upon the designation of an appropriate system capable of matching the firm's production needs.

Therefore, Tiffany & Co. must eliminate the rigidity in the flow of its jewelry production process so as to enable the company achieve its corporate objectives through increased satisfaction of both the internal and external customers. Tiffany & Co. is a production company that is evidently in its advanced stages of operations where it is expected to be externally supportive. Companies experiencing the progressive stages in development must always incorporate operations strategies to the overall engineering, production, marketing and distribution strategies (Nielsen-Englyst, 2003).

It is upon this realization that I recommend to the management team of Tiffany & Co. to adopt the manufacturing resource planning (MRP II), a more progressive production system so as to achieve sustained quality improvement. The MRP II is capable of addressing numerous manufacturing solutions particularly in terms of facilitating working strategies between the management and operational functions of the firm through the integration of different functions of the firm (Walder 1992). By adopting MRP II, Tiffany & Co.

will be able to introduce interactive aspects in its production utilities such as the automated computer designs by encouraging increased interactions among the internal customers and more importantly, between the internal customers and the internal customers. As such, customers will be able to directly feed their preferred jewelry designs to the system and thereby eliminate the need of the company employees to perform the same function from the company computers. These benefits will translate to increased order uptake and productive use of human resources in other demanding functions in the production processes.

The company will also be able to employ just-in-time production strategies in supply chain and inventory management by using the customer fed designs in the system to forecast the raw material need for production at particular times. The adoption of MRP II will enable Tiffany & Co. to improve its manufacturing processes by as much as 25 percent, a precedent that will significantly transform the company's market presence and profits according to its strategic plan. Conclusion My findings in this simulation activity demonstrate the significance of continuous process improvements as key components of success in any manufacturing company.

By and large, a manufacturing company which does not pursue constant process improvement strategies risks experiencing redundancy of staff and production facilities because of the difference between the company's corporate objectives and market realities. As Walder (1992) observed, process innovations and the alignment and integration of technological and management systems to the needs of the organization are prerequisite

requirements for successful strategic management of manufacturing activities.

Therefore, the significance of my process improvement project is validated by my proposal of achieving high quality production standards by adopting persistent practical and corrective measures in manufacturing processes.

References Neilsen-Englyst, L. (2003). Operations strategy formation...a continuous process. *Integrated Manufacturing Systems*, 14(8), 669-690.
Walder, J. (1992). *CIM: Principles of computer integrated manufacturing*. John Wiley and Sons Limited.