

Who Should Manage the Project?

By Steve Mowry

This article is based on my study of business and project management at Bryant College and the University of Rhode Island, but within the context of my subsequent experiences as an R&D transducer engineer focusing on the design and development of audio systems in both the US and SE Asia for the past 11+ years. Not unlike engineering, project management is a highly specialized discipline with its unique set of required skills and the challenge of efficient resource management.

THE PLAYERS

I will assume that for some theoretical company the cross-functional development team has been identified and is illustrated in *Fig. 1*. Without this first step, the development project outcome is uncertain at best. The team includes the departments of engineering, R&D, marketing, manufacturing, quality, finance, purchasing, and suppliers.

Note that upper management is not represented on the team itself. The team reports to upper management and management should never try to “milli-manage” the project or their staff. I have observed serious pitfalls when upper management attempts to manage projects and/or make design decisions. Upper management basically has only four functions: forecasting, planning, budgeting, and decision-making. Management should empower its staff to stimulate creativity and productivity. Give the team the opportunity to share information freely and to do the project brainstorming together and early.

In practice, which cross-functional team member is the most appropriate (correct) to also function as the project manager? Successful project management involves the balancing of time, cost, performance, resources, and customer needs. Effective project management requires planning, estimating, communication, and control.

The project manager is the focal point of communication with upper management and customers. Communications are typically in the form of regular status reports, up-to-date Gant charts, and customer progress reports and meeting summaries. Then clearly the suppliers are not a consideration.

While finance, purchasing, and marketing typically do not have the scope of understanding regarding the physical capabilities and limitation of the new product(s) under development, this is not the case for R&D and engineering—and, in many projects, the project manager is from engineering and/or R&D (D&D). The engineer—project manager is typically well educated and could very well be the highest paid member(s) of the team. But there is something that engineering and R&D have in common with quality, marketing, finance, and purchasing: the tendency toward functional silos or individual islands that lack interaction with other functions and in not sharing the internal data or processes. Thus terms such as NMP (not my problem), NIH (not invented here) and “that’s their job” appear, indicating barriers to cooperation and resistance to change.

Functional views and diverse perspectives are important and really that’s the point of the cross-functional team—to represent these views; but only manufacturing or individuals that fully and realistically understand the capabilities and issues faced at the plant(s) can understand the true scope of the product’s development challenges. Without manufacturing’s involvement in the project early, the risk of failure increases significantly. Rhetoric and cliché are of little help to manufacturing or the project for that matter.

If there are any functional silos, let them tend toward manufacturing’s considerations. This approach forces the team to consider manufacturability of the product from the onset of the development project and to work on the design of product and manufacturing processes concurrently. This is an essential/fundamental element of concurrent engineering and con-

current product development. I discussed these topics in detail within “Concurrent Product Development,” in the July/August 2004 issue of *Multi Media Manufacturer*.

TIME TO CHOOSE

Although R&D and engineering have designed and documented the product and understand the physical theory, concepts, and specifications, manufacturing is responsible for building the product. Without correct manufacturing, the company will most likely fail in the long term and constrict profits or expand loss in the short term. This entire argument becomes even more interesting when considering that the people who assemble A/V-consumer electronic products are typically the lowest paid within the company. Frankly, the consumer electronics industry seems to search the planet within the lowest socioeconomic regions of the world in hopes of reducing manufacturing and labor costs.

Furthermore, R&D, engineering, and marketing are typically held in higher esteem than their manufacturing counterparts. Resentment and adversity can result. Always keep salaries confidential when possible. A competent project manager from manufacturing is a valuable resource in a free market within any region of the world.

This must in no way compromise the cross-functional teamwork, but act more as a check and balance for staying focused on the manufacturability of products under development. Teamwork is still essential to successful projects and companies. Allowing manufacturing to manage the project is consistent with this critical objective. Manufacturing people can balance the concerns of the team and sometimes mediate R&D and engineering departments with quality, finance, marketing, and purchasing.

Manufacturing is an inherently practical application that is used to being under pressure and dealing with unexpected events. Manufacturers assemble, test, and ship product to the customer. Remember that manufacturing wants to build the product in

high quantity with zero rejects and with zero external costs that could be related to the manufacturing processes. Many times manufacturing already knows how to make assembly more friendly and efficient.

I am most comfortable making design decisions myself; however, having said that, I am more comfortable with manufacturing rather than marketing, upper management, or the remaining non-technical teams, making limited design decisions. Their input and concerns are important, and "quality" must be designed into the product. This is best done as a team and this is well accepted as the methodology of choice for new product development.

Quality is defined as the absence of variation about a target value. My point is if the project manager does not completely understand manufacturing and the associated processes and procedures within the company's facilities, then best results may not occur

and the competition may prevail.

When searching to fill the position of design and development manager, or even R&D manager or equivalent, consider promoting or reassigning the manufacturing manager or a senior manufacturing supervisor. You can apply the previous argument to the management of the development resources in a more global sense to include technical-oriented departments as well. The concept is essentially to have manufacturing become the champion or principal driver of the development project(s). Marketing and R&D will continue to drive implementation of new technology with regard to customer demands and engineering endeavors.

CONCLUSION

The horror stories abound about failed projects and companies because products could not be manufactured, even when the design was touted as a spectacular technological breakthrough! I

will spare you any renditions of aggravation, but I have tried to share the positive side of my observations while indicating pitfalls and bestowing a bit of wisdom in the process. Note that when a product manufactures well, people at all levels within the company tend to be quite happy.

Serious comments and/ or questions regarding this discussion are encouraged and welcome. Communications can be sent to editorial@audioxpress.com or to steve@s-m-audio.com. **M³**

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