

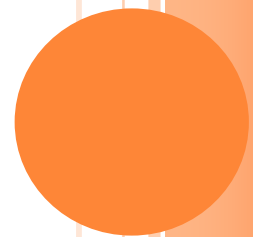
MANAGING DEPARTMENT GROWTH

from entrepreneurial “water cooler” engineering to a structured multi-disciplinary technical team postured for growth and excellence

CASE STUDY

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Private equity investment expected a strategic leap in technology and organic business growth. The Engineering department that was equipped to compete with the goals set in the private ownership environment had to expand in capability and bandwidth to capably execute 5 times their peak workload.

CASE STUDY #1 – DEPARTMENT

Situation:

A private equity company that manages approximately \$1.5 billion of committed capital acquired a small entrepreneurial company that developed and manufactured vehicle lighting. With aggressive growth intentions, they would need to raise the technical capability, increase the bandwidth and put systems in place to ensure “done right the first time” delivery on customer expectations. There was a \$30 million backlog of awarded-but-not-launched business that had to be designed and engineered; the company was spending an estimated \$1.1MM annually on outside contract engineering with limited bandwidth to manage scope or provide concentrated leadership; the staff was overworked and tired; and the largest customer had started to express dissatisfaction.

Action Plan:

- Assessed and categorized all product development activity to determine which activity was essential. To be considered essential, activity needed to be addressing:
 - a) A customer complaint or warranty issue
 - b) A “no-build” at the assembly plant, or
 - c) New product development on awarded-but-not-launched products
- Stopped work on all non-essential projects. Cost reduction initiatives, pet projects and all other non-essential product development were put on hold pending completion of the essential work. Abandoning the notion that every assignment priority was equivalent had an immediate positive affect on team morale and freed up 40% of valuable bandwidth.
- Prioritized work based on program timing for awarded-but-not-launched products. Immediately, customers with the nearest due dates began to see improvement. 13 products were removed from customers Product Launch Risk list within 6 weeks.
- Introduced cross-functional design review. The Quality Department gave design input based on warranty data. Manufacturing provided valuable design for manufacturing input. Purchasing influenced the bill of materials based on component availability and commodity versus specialty item assessment. Cross-functional input assured “do it right the first time” results.
- Implemented design and engineering standards to provided a common approach and prevented repeating development steps from product-to-product. Implemented performance factor of safety standards to allow for component and assembly variation, making a more forgiving design.
- Identified roles that were essential to core products and added internal capability. Saved \$675,000 in year-over-year expenses for specialized outside contractors was

eliminated by adding 2 Electrical Engineers, a technician and an Optical Engineering expert.

- Reduced reliance on outside design and engineering contractors (\$400,000 annual savings) to circumstances of capacity flexing for common, non-specialized activities to keep the organization lean. Able to function with 50% less headcount than the closest competitor.
- Created an Advanced Engineering group to demonstrate forward focus and innovation to customers.
- Created a Phase 0 process to assist Sales in new business acquisition.

Results:

Aggressively supported Sales with Phase 0 engineering analysis for \$35MM in new business (\$21MM won), while processing \$30MM of awarded-but-not-launched business. Concurrently ran product development activity on 91 new products in an orderly way, done right the first time, to the agreed to schedule. Replaced customer dissatisfaction at the largest customer with such confidence that Advanced Engineering created a need for new products, which resulted in new business awards. Restored the morale with the quantity and quality of the team output. Created a culture of confidence and instilled a sense of calm within the Engineering team by acquiring tools to bridge the technology gap, prioritizing based on program timing and making honest assessments of capabilities and bandwidth. By operating to schedules, flexibility was created for an agile Engineering group to be re-deployed to support changing priorities without compromising customer schedules.