PROJECT SUMMARY
RESEARCH & DEVELOPMENT DIVISION – HEAVY EQUIPMENT MANUFACTURER

PROJECT TITLE: ENGINEERING WORKFORCE COMPETENCY ANALYSIS

Project Overview: The client needed to improve its product development process (PDP) to achieve the organization's growth objectives, to further globalize the company, and to develop a global engineering workforce. The client hypothesized that the biggest issues within the PDP were a result of engineering workforce capabilities. To investigate this issue, the client hired CGN to conduct an engineering workforce competency analysis.

Business Objectives

- Identify key competencies, get a clear understanding of the current state engineering capacity, and identify significant competency gaps
- Connect the organization's growth strategies with future workforce needs to ensure success in achieving strategic objectives

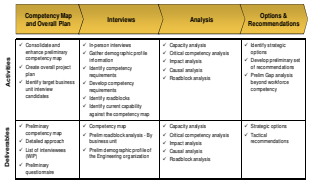
Challenges

- NPI programs were often over budget, behind schedule, and not meeting internal quality standards
- Client had never conducted a competency based assessment of the workforce
- Client did not have an accurate way of forecasting workforce talent requirements to match the projected company growth

Methodology

- CGN conducted a competency analysis to assess the current state of the engineering workforce across the enterprise, identify critical gaps, and develop recommendations. The competency analysis consisted of the following:
  - Capacity Analysis to estimate the number of NPI programs that could be delivered successfully based on the current engineering workforce
  - Critical Competency Analysis to identify critical competencies for delivering a successful PDP and identify gaps in critical competencies
  - Causal Analysis to identify the historical factors that lead to the current workforce profile and competency gaps
  - Impact Analysis to estimate how competency gaps were affecting critical business drivers, such as product differentiation, time-to-market, etc.
  - Roadblock Analysis to identify roadblocks that prevent the engineering organization from delivering more successful NPI programs
- CGN identified strategic options and tactics to eliminate competency gaps and also provided recommendations to address issues faced by the client in delivering successful NPI programs

PROJECT ROADMAP



CAPACITY ANALYSIS

Category	Overall	Expert	Intermediate	Novice
Overall	68%	57%	64%	112%
Critical Competencies	62% ↓	45% ↓	64%	123%
Technology	76% ↑	68% ↑	67%	115%
Product	69%	53%	69%	146%
Process	68%	64% ↑	64%	88%
Program	59% ↓	49% ↓	60%	102%

IMPACT ANALYSIS

PROJECT DURATION:

February – July, 2006

RESULTS:

- **Identification of 15 critical competencies aligned to company growth objectives**
- **Gap analysis for the competencies within the existing workforce (by geography and level of expertise)**
- **Insight into why the competency gaps exist and the impact the gaps are having on important business drivers**
- **Recommendations for addressing competency issues and a roadmap to attain the desired goals**
- **Clear picture of the shift in workforce needs for the upcoming10 year period**

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