

Automotive: Quality

The Company Dilemma

Our client, a large European passenger and light commercial vehicle manufacturer, was making progress in a European New Car Buyers Survey of defects in the



vehicle's first few months of use. However, it lagged behind best-in-class Japanese manufacturers, and customer perception of its product quality was low.

The company was struggling to reduce vehicle recall costs, and its warranty and policy spend, as a percentage of net sales, was trailing best in class.

Thomas Group was engaged for the implementation of a Total Vehicle Quality program focused upon:

- Increasing customer *perceived quality*
- Improving reliability and durability
- Reducing the cost of recalls
- Bringing clarity to the process of translating market requirements to engineering specification
- Increasing component re-use and carry-over
- Applying the supplier quality process to in-house manufacturing
- Introducing an improved vehicle launch process
- Aligning dealer preparation costs with current quality levels
- Implementing an executive level quality management system

Thomas Group led the entire management team through a process of identifying key success barriers and selecting a *vital few* initiatives that would fix major quality problems and drive new quality behavior throughout the company. Each management team member signed up to lead a cross-functional team using the Thomas Group approach.

Customer Perceived Quality

A low customer perception of vehicle quality had contributed to a fall in market share and profitability. The lack of a standard approach, in the vehicle development process for measuring *perceived quality*, was identified as a key barrier. A cross-functional team led by Thomas Group:

- Developed *perceived quality* rules to apply standard design and engineering requirements to customer *look and feel* perceptions
- Defined *perceived quality* priority zones based upon how customers interact with a vehicle
- Created a set of standard *perceived quality* measurements to be applied to any vehicle
- Integrated a *perceived quality* approach within the vehicle development process

Reliability and Durability

Cost in Service was significantly behind best in class. A client team, led by Thomas Group, set the target of improving *Cost in Service* ratios by 20% to compete against the industry benchmark. As a result: Content and timeliness of data collection was improved.

- Discipline was added to the problem resolution process.
- Individual champions drove problem resolution.

Recall Costs

A client cross-functional team carried out a deep-dive analysis and identified 42 key issues that had contributed 60% of total recall costs over the previous six years. The team identified holes in the existing FMEA, PPAP, and Validation processes, which had allowed recall issues to slip through. It defined improvements to integrate the processes and established a methodology to ensure that root causes of past recalls would not re-occur.

Automotive Quality: Real World Examples

Marketing to Technical Specification Translation

The company lacked a consistent and measurable process to develop market requirement specifications that could be accurately translated into a set of vehicle specifications by design engineers. A high level of rework, throughout the development process, was primarily due to the late removal of vehicle options and features in order to meet cost objectives.

A new translation process was defined and implemented. The vehicle development process was enhanced so that it could be more effectively applied to projects of varying complexity, ranging from minor facelift to new vehicle platforms. A measurement system was introduced to clearly identify functional differentiators against target competition. This system enabled a balancing of cost against feature throughout the development process.

Component Re-use and Carry-over

Historically, component re-use in all projects was low. Key issues included the lack of a clear cross-platform strategy, no yardstick by which to measure re-use benefits, the lack of a change control methodology to drive re-use, and a culture of design optionalism. A cross-functional team:



- Developed a strategic bill of materials to identify and enforce re-use
- Established a model that clearly identified the financial benefit of re-use and extended

its use to the budget process

- Strengthened the change management process to address re-use as a key imperative
- Escalated deviations to the re-use strategy caused by optionalism

Quality Process for In-house Parts

The application of different quality procedures to internal manufacturing and external suppliers had created complexity and inconsistency. The major hurdle, in introducing a 16-step external supplier process to internal manufacturing, was cultural resistance to change.

A high level team overcame this barrier to deliver higher PPM quality performance and to reduce overhead in checking and fixing. In the process, internal suppliers became more customer oriented and opened the door to significant savings.

Vehicle Launch

Product, dealer, and sales launch activities did not take place in a coordinated manner. Consequences of missed deadlines were not always understood. Without launch process leadership, lessons learned were not fed back to improve future performance.



A team, led by Thomas Group, mapped all elements of vehicle launch, combined these into a common process, and implemented this as a project management tool. It introduced cycles of learning and trained brand teams to use the new process.

Dealer Pre-delivery Preparation Costs


The quality of delivered vehicles had improved in recent years but dealer costs had not fallen in line.



A team identified existing best practices and applied these across Europe to save time in technical preparation and to reduce optical checks by 10%.

The Executive Quality Management System

Within the existing quality control process, the first quality gate came in late, there was no central monitoring point, and time between reviews was long. The process was firefighting oriented, that is, focused on problem solving and not prevention.

To address these failings, a team established new executive critical quality criteria and integrated these within the vehicle development process. This gave an early warning of actions to be taken and made time to advance quality performance without rework. 

What senior client executives say...

"You are experienced, senior executives...solid in depth and with a wealth of knowledge."

"Could not have done it without them. Didn't think we would have made the progress that we did. They persevered through the project and this diligence is what got us to the good point we are currently at."

"These guys supported our implementation by 'leading and doing' not just by pointing the way."