Keeping Your Eyes on the Road: Measuring Performance with Scorecards

International Truck & Engine Corporation and ABC Technologies Team Up To Deliver Results

BY CATHERINE DAY AND HEATHER KOS, INTERNATIONAL TRUCK & ENGINE CORPORATION, AND DAVID ROMBOUGH, ABC TECHNOLOGIES
SUMMARY

The Chatham experience is significant because it shows that the process of linking high-level strategic goals with day-to-day activities in the organization clarifies priorities and uncovers opportunities for taking out cost. At the same time, the process sets the stage for meaningful communication at all levels of the organization. Additionally, the fact that this initiative was championed by the plant’s managers and not the corporate front office is profound. At an aging facility that is part of a very large corporation, the pressure on the front-line managers to clearly understand and respond to the corporation’s key strategic objectives and be aligned with them is very strong. Despite a mature ABM modeling effort, operational managers still lacked the data that they needed to connect activities to strategy—that is, until the scorecarding process was in place. Chatham’s experience shows that the scorecarding effort and its results are key tools that the front-line staff can use to develop alignment through communication and to measure and manage their performance effectively.

ABOUT THE AUTHORS

Catherine Day, CA, is manager of Strategic Cost Management for International Truck and Engine Corporation at the Chatham, Ontario plant. Catherine has been with ABM since its implementation in Chatham. Currently she works with local management to identify cost savings opportunities. She is responsible for financial planning and reporting in both traditional and ABM formats. Catherine started with International in the materials field, assisting with the implementation of Supplier Performance Scorecarding via Electronic Data Interchange (EDI). Her previous roles include Controller/General Manager of a small credit union and working in the Entrepreneurial Services Group of Ernst & Young. Catherine earned her Bachelor of Business Administration from Wilfrid Laurier University in Waterloo, Ontario and obtained her Chartered Accounting Designation in 1991.

Heather Kos, CMA, CPA, is the controller of the I-6 engine facility and the manager of the Financial Management & Development Program at International Truck and Engine Corporation. During the Chatham scorecarding effort, Heather was the manager of Activity Based Management and Global Corporate ABM Champion. Her previous roles include Cost Manager at Bimba Manufacturing Company and Tax Consultant at PriceWaterhouse. She earned her bachelor’s degree in accounting from Michigan State University and her MBA with an emphasis in Managerial Accounting from DePaul University.

David Rombough, CA is a Technical Program Manager with ABC Technologies. A graduate of the Richard Ivey School of Business at the University of Western Ontario, David is a Chartered Accountant with an extensive background in activity-based management and performance measurement.
Keeping Your Eyes on the Road: Measuring Performance with Scorecards

INTERNATIONAL TRUCK & ENGINE CORPORATION
AND ABC TECHNOLOGIES TEAM UP TO DELIVER RESULTS
OCTOBER 1999 TO JULY 2000
by Catherine Day and Heather Kos, International Truck & Engine Corporation,
and David Rombough, ABC Technologies

International Truck & Engine Corporation is a leading North American producer of heavy-duty trucks, medium-duty trucks, severe service trucks, and school buses. International® brand trucks, school buses, and truck parts are available worldwide at nearly 1,000 International truck dealerships. International dealers also offer a complete range of parts for International trucks and school buses. International used trucks are available at sixteen corporate-owned used truck centers nationwide. The company is a worldwide leader in the manufacture of mid-range diesel engines for the International brand, and a private-label designer and manufacturer of diesel engines for full-size pickup truck and van markets and selected industrial and off-highway markets.

The Chatham [Ontario] Assembly Plant, which is 50+ years old and employs approximately 1,400 people, assembles trucks for one International product line, with wide variation between individual units.

DEFINING THE BUSINESS ISSUES

• The controller of the Chatham Assembly Plant faced a critical business requirement: to quantify the cost of each of the business’s key performance indicators (KPIs).

• The Chatham facility had developed a detailed Hoshin business plan, but it was not connected to the ABC/M model (see sidebar on page 2, “Hoshin Business Planning,” which accompanies this case study).

• The company had a mature ABC/M model in place, but found it difficult to tie cost drivers and KPIs to financial performance.

BACKGROUND

• The Chatham facility had three to four years of in-depth experience with ABC/M. All employees were trained in ABM methodology.

• This was the first ABC/M initiative within International Truck that was driven by the plant, not the corporate front office. “The drive to set up scorecarding at Chatham was completely grassroots,” said Catherine Day.

• Chatham’s strategic planning included the development of a Hoshin plan covering five areas: people, quality, production, cost to serve, and product.
Key characteristics of Hoshin planning are:

1. If an objective is not measurable, it cannot be included in the plan. This attentiveness to measurability would prove to be fundamental to the success of this business process improvement.

2. Objectives can include specific targets. Again, this level of specific detail in stating objectives would prove to be fundamental to the success of this effort.

The plant was facing critical business pressures which included:

1. Industry downturn
2. Possible layoffs
3. A need for agility in the marketplace while still staying lean and mean

<table>
<thead>
<tr>
<th>Date</th>
<th>Key Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oct 1999</td>
<td>With an enterprise ABC/M program in place, International Truck &amp; Engine Corporation considers the possibility of an activity-based scorecard pilot project.</td>
</tr>
<tr>
<td>Early 2000</td>
<td>The controller at the Chatham Assembly Plant, faced with an urgent need to be able to quantify the cost of the plant’s key performance indicators (KPI’s), begins searching for a tool that can produce this kind of analysis.</td>
</tr>
<tr>
<td>Apr 2000</td>
<td>RapidScore prototyping event with senior managers takes place at Chatham. As a result of this event, plant management decides to move forward with a scorecard pilot. Five departments will be used as the pilot test case.</td>
</tr>
<tr>
<td>May 2000</td>
<td>The corporation’s annual strategic planning process begins. This is also the initial target date for completion of the scorecard pilot. However, because of the planning and other business activities, the pilot is postponed.</td>
</tr>
<tr>
<td>May 2000</td>
<td>Chatham controller is promoted, creating a temporary executive vacancy in one of the key roles.</td>
</tr>
<tr>
<td>May 2000</td>
<td>A one-week plant shutdown goes into effect. During this time, managers are at work, though the line workers are not. This period was used to train the operational managers of the five departments included in the pilot, as well as the three ABM analysts who will build and analyze the model.</td>
</tr>
<tr>
<td>May 2000</td>
<td>Training day #1 begins. With a cross-functional team, a new organizational model is developed, starting with the Hoshin plan.</td>
</tr>
<tr>
<td>May 2000</td>
<td>Training day #2 begins. Small breakout groups work on model extension and data gathering.</td>
</tr>
<tr>
<td>May 2000</td>
<td>Training day #3 begins. The cross-functional team is again convened to review and assess the consolidated data. The main purpose is to increase the team’s collective understanding of the data and the linkages between the elements.</td>
</tr>
<tr>
<td>June/July 2000</td>
<td>Following this work, the ABM analysts gather detailed departmental information, consolidate the data, and prepare preliminary reports. The final results for each department are reviewed with each area manager/supervisor for validation.</td>
</tr>
<tr>
<td>July 2000</td>
<td>Presentation of pilot to local plant executives, new controller, and new plant manager.</td>
</tr>
</tbody>
</table>
**PROJECT PLAN**

**Project Scope**

To determine the scope of the project, key managers from all functional areas were included in discussion groups, using the Hoshin plan as a performance management framework. The functional areas represented were:

- Manufacturing Production
- Quality Assurance
- Materials
- Human Resources
- Manufacturing Services
- Engineering
- Process planning
- Order processing
- Plant management\(^1\): plant manager and controller
- Global corporate ABM champion

---

\(^1\) The plant manager was scheduled to participate, but the Chatham effort coincided with the promotion of the plant manager and the search for his replacement.
DETERMINE SCORECARD STRUCTURE

The intent of the scorecard is to drive accountability with managers, who are most familiar with their objective setting framework. Part of this framework is to establish priorities by choosing one of the following scorecard structures:

- The process focus of the legacy ABC/M model
- The Hoshin planning hierarchy
- The functional reporting structure

After much discussion, the Chatham team selected the functional view. Furthermore, the managers decided that the scorecard model would reflect the high-level Hoshin dimensions that are meaningful to the plant manager, and would then
reflect the functional reporting and subsequent measures that are of interest to the reporting managers.

**DETERMINE SCORECARD PRIORITIES**

The next step was to rank plan areas and objectives, according to importance to Chatham management.

All participating managers\(^2\) were given a finite number of small, round, adhesive labels (“dots”) in four colors, with each color signifying a different rank level. The four levels were:

- Highest priority
- Special attention
- Business as usual
- Nice to have

Voting was conducted in two passes.

The first round of voting determined which of the Hoshin objectives had the highest priority. Each manager was asked to place a dot (corresponding to its level of priority) next to each one of the Hoshin objectives. The votes were then tallied. The result of this first vote was a consensus that quality had the highest priority.

The goal of the second round of voting determined which objectives in the area of quality had the highest priority. Participants used the same dot-based voting process.

**ROLES AND RESPONSIBILITIES**

- Heather Kos Global ABC/M Champion from Chicago
- Catherine Day Manager, Strategic Cost Management
- Dalila Prizio ABM Analyst and Modeler
- Dave Boland Manufacturing Manager
- Craig Holmes Quality Manager
- Renee Martens Industrial Engineering Manager
- John Miller ABM Analyst and Modeler
- Cor Koole ABM Analyst and Modeler

**KEY TASKS AND KEY MILESTONES**

- Reviewed tasks for which the key managers had ownership under the Hoshin framework
- Determined how managers measured the performance of tasks and established related meters
- Assessed current performance versus target meter (KPI)
- Assigned relative ranking to tasks
- Associated Hoshin objectives to ABM activity
- Identified data source for meters (KPIs)
- Examined departmental results

\(^2\) Most of the attendees were plant management members who were eligible to vote. Additionally, there were observers who participated in the process but did not vote.
SPECIAL LOGISTICS, CHALLENGES, AND ISSUES

Special Logistics

• Ideally, startup meetings should be held offsite so that the key participants are not distracted by normal daily routine interruptions. In this case, while this event was not held offsite, all communication with managers was of an emergency nature only.

• The Hoshin plan was displayed in storyboards on the walls of the meeting room. These charts facilitated discussion regarding Hoshin and multi-voting exercises, which in turn facilitated strong agreement on priorities.

• Another challenge of the Chatham project was to keep the number of personnel dedicated to ABC/M to a minimum. To achieve this, team members used the scorecarding effort in combination with ABC Technologies’ software to cross-train ABM analysts as facilitators and modelers.

VALIDATING THE MODELS

Validating the scorecarding model was straightforward because so much of it is simply using common sense,” said Catherine Day.

The steps Chatham followed were:

1. All unlinked activities were reviewed with the appropriate managers to make sure that they were orphans3 rather than oversights. Activities that were verified as unlinked (orphans) were examined to see if they could be eliminated, leading to cost savings.

2. Similar activities performed by different groups but linked to the same strategic objectives were compared. The goal was to ensure that similar activities were being measured in the same way. Again, the appropriate managers were included in the discussion.

3. The tasks were reviewed to ensure that they were contributing to the objectives. Preliminary results showed that in some cases, the subordinate tasks for an objective were all in the acceptable range (green), but the higher-level objective was not in the acceptable range (red). In these cases, the tasks were scrutinized to ensure that they were the right ones to be tracked and measured. If tasks were valid contributors, the meters/target KPIs were reviewed and revised where necessary.

4. For maintenance, comparability, and consistency, the team felt that keeping the number of meters down to the smallest practical amount was important. To that end, the team intends to review the meters to keep their numbers at a minimum.

REPORTING RESULTS

The most important reporting requirement at the onset is to get the data to the key operational managers in a timely manner so they can react to it. Since ABC/M data is reported monthly, the scorecard data is provided as well.
is reported monthly, the scorecard data is provided as well.

Because of the need to iterate and tune the model, monthly reporting is required.

In the case of the Chatham facility, the organization planned on purchasing enough software licenses from ABC Technologies to allow all area managers to access data via the Oros Console. Eventually, Chatham hoped to have all of its data on their intranet in a form that could be explored, manipulated, and extracted.

LESSONS LEARNED

• The company learned that it had greatly underestimated the enthusiasm with which the operational employees would greet an activity-based scorecarding process. “We went in thinking that this effort would be Finance-led, (as we had historically been the champions for ABC/M),” said Catherine Day. “We expected the outcome of the scorecarding effort to be a way for the functional areas of the organization to see how well they were aligned with the corporation’s enterprise-wide strategic goals. However, operational people were so excited about this that we let them dictate the scope of the modeling effort. As a result, the outcome was fabulous. Unlike ABM, which was an initiative that had to be pushed and sold, everyone wanted a [way to look at their role in accomplishing the] Hoshin plan.”

• A successful scorecard process needs to start quickly to get the irreversible momentum needed for broad organizational buy-in. It must also be iterative to capture and gauge the business’ response to change.

• Linking operational activities to the Hoshin objectives resulted in the operational managers and supervisors being more conscientious about responding to their ABM surveys. Now that there is linkage between activities and the strategic plan, there is now a willingness to provide timely and relevant data that will be presented in upcoming reports. Operational managers want to know how they are doing on the strategic plan and whether or not they are meeting strategic objectives. Uncertainties surrounding the reasons why activities are performed have now been alleviated because managers can easily see the link between their activities and the objectives that they support.

• Scorecarding is very dynamic: It can change as the model evolves. Along the way, there are many opportunities to reassess priorities and refine assumptions.

• Though the Hoshin planning process emphasized specific, measurable objectives, the team discovered that a number of the resulting objectives were expressed in subjective terms or proved to be difficult to measure. Finding ways to impartially measure some of the objectives required time and discussion. Also, the need for consistency in measuring and the application of metric data across the plant complicated the discussion. From this, the team decided to let the need to monitor, analyze, and report progress frame the objective-setting process in future strategic planning sessions. This should result in objectives that are more clearly stated at the onset.

• The process helped identify disconnects between the ABM model and Hoshin KPIs, thereby acting as a validation for the entire ABC/M effort. “We thought we had solved this with our activity-based systems, but of many of the strategic KPIs
• There are activities being performed that are not supporting Hoshin plan objectives. These represent opportunities for future cost reduction.

• The first view of objectives data revealed disconnects that had not been apparent before the scorecarding initiative began. In some cases, objectives and their subordinate tasks scored largely in the acceptable range, but were, in fact, contributing to a top-level objective with a score that was not in the acceptable range. For example, one plant objective sought to improve first time quality (FTQ) by 5% month after month. In an effort to achieve this goal, the team established a departmental task to reduce defects per unit (DPU) by 5% month after month. In one production area, the team achieved the task of reducing DPU and the task showed green. However, when the team reviewed the FTQ for the area, the goal was red and had not been achieved. This showed a need to review whether DPU significantly advanced the goal of FTQ. If the team determined that DPU advanced the goal, then the task of DPU needed to have its ranking and target KPI reviewed in relation to the other tasks affecting FTQ.

• Using outside advisors such as ABC Technologies provided credibility to the overall scorecarding process and helped Chatham ramp up quickly.

NEXT STEPS

• Managers are accountable for the performance of specific tasks. In the initial pilot, it was discovered that accountability for one objective might be divided amongst several managers, each with one or more supporting tasks. In the future, scorecard data will be reviewed by the team to determine the most appropriate manager who can accurately align accountability with the objective.

• The pilot revealed a number of activities that were not associated with any of the high level objectives. In the future, Chatham will reduce the number of orphans, with the goal of investing resources only in activities that are required to meet governmental regulation are specifically linked to high level objectives.

• The process revealed several disconnects in the alignment of managers’ and supervisors’ priorities. These disconnects were not previously apparent and were therefore unaddressed. Future scorecarding processes will be used as a discussion and communication tool to unite the management team in their efforts towards the creation of common and strategic goals.

• Other International plants are watching the pilot attentively and are eager to participate in the next phase, which will consist of a roll out to other locations. “The operational people are so excited about this,” said Heather Kos. “It is a tool they can use and understand, even with limited time and training. The outcome [at Chatham] was significant. Everyone in operations wants to do Hoshin planning this way.”

― Heather Kos