

The Hoshin Planning System

Steering Everyone in the Right Direction

Getting people's goals aligned.

Imagine you're part of a fleet of personal aircraft traveling from various locations to one destination. Each individual pilot is responsible for getting to that destination.

Providing precise directions for each pilot isn't practical. There are too many starting points, and too many different delays, adverse weather conditions, and detours that pilots might encounter along the way. So you've all been given a sophisticated navigation device to keep you on course.

This navigation device will ensure that, even though each pilot is acting independently, they'll all arrive at the same endpoint.

The challenge faced by these pilots is much the same as the one faced by workers in many organizations. There's a strategic destination that they're all supposed to reach – however, they don't always have a convenient device like this to help them reach their objective.

Sometimes individuals, teams, and even whole departments can get so far off course that they seem not even to remember what the final destination was supposed to be!

A Systems Approach

This is where it's useful to have a system to co-ordinate different parts of your organization and keep them on course. One such system is "Hoshin Kanri."

Developed by the Japanese in the 1960s and '70s, Hoshin Kanri (also called the Hoshin Process) is a useful process for managing work towards a key strategic initiative (a hoshin). This approach aligns all parts of an organization to accomplish an important objective.

The Hoshin Process

Hoshin Kanri is a system for strategic planning that:

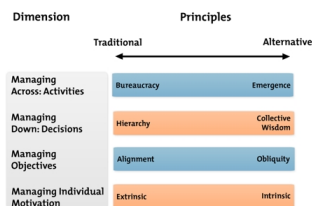
- *Selects a key objective.*
- *Aligns implementation plans at all levels.*
- *Implements, reviews, and improves the plan on an on-going basis.*

Note: The process of hoshin planning follows Deming's Plan-Do-Check-Act cycle. In fact, PDCA is an influential tool that was used to create Hoshin Kanri. PDCA is a generic method for continuous improvement, which is what hoshin planning aims to be. Below, we've shown how the various steps of Hoshin Kanri align with PDCA.

Step 1: (Plan) Define What You Want to Improve

This is most often a key strategic objective that needs a significant change in how things are done.

Typically, Hoshin Kanri is associated with planning and change at the organizational or strategic level. However, hoshin planning can also be used in a team or department to bring about important changes.



Step 2: (Plan) Establish Sub-Goals to Achieve Your Objective

- *What organizational (or team/functional/departmental) goals for the year are need to achieve this objective?*
- *What checkpoints are necessary to keep the goals on track?*
- *What controls can you put in place to ensure that the goals are successfully reached?*
- *How will you measure progress and evaluate success?*
- *Record these, and use them as the basis for your review process.*

Step 3: (Do) Communicate the Plan

Communicate your plan throughout the organization.

Ensure that all levels of the company understand your vision and goals.

Have each department and team set its own goals to link directly to the objective and the sub-goals you've established.

Make sure that managers in these departments and teams "ripple goals down" so that everybody knows their part in the plan, and is using the Hoshin process to manage the people who report to them.

Assign clear responsibility for each item in the implementation plan.

Make sure that you have agreement on all items within the plan with all of your reports, and make sure that this agreement has rippled down as well.

Step 4: (Check) Develop a System to Collect Information on Your Control Parameters, and Then use it to Manage Change

Are your key metrics being met? If not, why?

Create a review table that shows the:

- *Goal.*
- *Goal owner(s).*
- *Time frame.*
- *Performance metrics.*
- *Targets.*
- *Actual results.*

Then use this table to manage movement towards these goals on an on-going basis.

This "check" step ensures that your plan is a living document. It doesn't just sit on a shelf to collect dust once it's finished. Hoshin planning is based on the idea that to reach your strategic goals, the company needs to be in a constant state of reflection and evaluation.

Tip: On your review table, note any differences between the target and actual performance. This information will be used for subsequent plans, because Hoshin planning builds in levels over time. The plan you create this year will be used as the basis for next year's plan.

Step 5: (Act) Analyze Results, and Take Corrective Action Where Needed

If there are any differences between expected and actual results, identify the sources of those differences. Discuss these, organize corrective action, and implement this action.

- *What is going right?*
- *What is going wrong?*
- *Do the plans meet the realities of your business and the problems you face?*
- *Are measures appropriate?*
- *What can be done better, or differently, to reach your destination?*

This stage of the process ensures a system of continuous improvement. To keep moving the company toward its vision, review the plans not just once a year, but on an on-going basis to determine how daily work should be done.

With this review (or act) step, you can ensure that plans continually evolve to take into account a changing environment.

Step 6: Repeat the Process as Needed

This process can be cycled over and over to maximize the quality of your efforts. It can also be used within your various business units, functions, and teams to ensure that their specific strategies have the same goal alignment and commitment to continuous improvement.

Tip 1: A tightly controlled approach like this only suits certain situations and certain industries (see our article on Birkinshaw's Four Dimensions of Management for more on this). Use your best judgment when applying this tool to your own situation.

Tip 2: Peter Drucker's Management by Objectives (MBO) was very influential in developing Hoshin Kanri. The idea of various levels of organizational objectives, from management down to the workers, is a fundamental part of hoshin planning.

Tip 3: See our articles on The Pyramid of Purpose and The Balanced Scorecard for more on techniques for communicating strategy and managing its implementation.

Key Points

Hoshin planning creates a process whereby everyone in the organization knows the overall direction. It was developed to create a systematic process for aligning goals at all levels of the organization with strategic vision, so that the organization's strategy can be achieved.

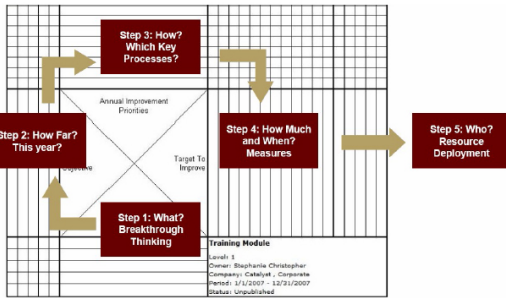
Based on both Management by Objectives and the Plan-Do-Check-Act cycle, Hoshin planning is a powerful way to direct your organization's energy toward key performance outcomes.

The resulting process can keep strategic planning documents alive and ensure that differences between planned and actual results are addressed.

And Hoshin planning isn't just for executives in charge of organizational strategy – it also applies to frontline managers and team leaders, because it's a guide for developing individual and team performance plans.

Strategic Planning With the Hoshin Process by David A. Kenyon

In today's business environment, any organization that wishes to exceed customer expectations and stay competitive needs a long-range strategic plan. This plan must be forward-looking, visionary and achievable, while at the same time striving toward continuous improvement of the organization's key business processes. The organization must, in effect, keep "both hands on the wheel" to move forward successfully. The hoshin strategic planning process in use at Hewlett-Packard Co. has been highly



successful in meeting these requirements.

The hoshin process is, first of all, a systematic planning methodology for defining long-range key entity objectives. These are breakthrough objectives that typically extend two to five years with little change. Second, the hoshin process does not lose sight of the day-to-day "business fundamental" measures required to run the business successfully. This two-pronged approach provides an extended period of time for the organization to focus its breakthrough effort while continuously improving key business processes day to day.

The hoshin methodology provides:

- Breakthrough objective focus.
- Development of plans that adequately support the objective.
- Review of progress of these plans.
- Changes to plans as required.
- Continuous improvement of key business processes.
- A vehicle for organizational learning.

Hoshin ensures that everyone in the organization is working toward the same end. The plan is hierarchical, cascading down through the organization and to key business-process owners. Ownership of the supporting strategies is clearly identified with measures at the appropriate level or process owner within the organization.

The hoshin process fits under the umbrella management philosophy of total quality management. The plan-do-study-act process improvement cycle enters repeatedly in the plan's development, implementation and review.

Using the PDSA cycle in strategic planning ensures that:

- Plans are developed more systematically.
- Progress on plans is carefully monitored.
- Changes to plans are made where necessary.
- Breakthrough objectives are attained.
- The planning process itself is standardized.
- The planning process is continuously improved.
- Organizational learning occurs.

History of the hoshin process

The hoshin process, which has evolved somewhat since its inception, was first used at Hewlett-Packard in 1976 at YHP, the company's subsidiary in Japan. The Japanese words hoshin kanri can be generally interpreted as direction (setting) management for the entity. The words nichijo kanri can be interpreted as daily (fundamental) management for the entity. The blending of these two methods is key to the success of the hoshin process.

The basic premise behind the hoshin plan is that the best way to obtain the desired result is to ensure that all employees in the organization understand the long-range direction and that they are working according to a linked plan to make the vision a reality. The second aspect of the plan is that there are fundamental process measures, which must be monitored to assure the continuous improvement of the organization's key business processes. In essence, all are heading in the same direction with a sense of control.

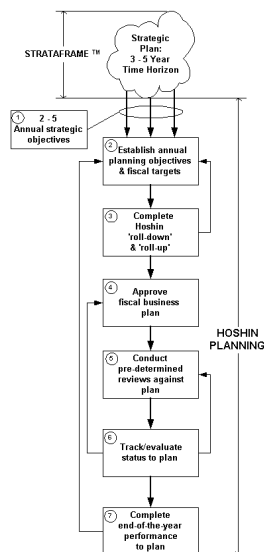
The process includes:

- Identifying critical business issues facing the organization.
- Establishing business objectives to address these issues.
- Setting overall goals.
- Developing supporting strategies.
- Determining goals for each strategy.
- Establishing process performance measures.
- Establishing business fundamental measures.

The review of the plan's progress follows the PDSA cycle, and it applies to all levels of leadership within the organization. In the hoshin process, there are two kinds of planned organizational activities: breakthrough activities and business fundamentals or key process-monitoring activities, also known as the business fundamentals table.

The organization should have a clear statement of purpose. In other words, what added value do customers receive via the products or services offered? Also necessary is a long-range vision: Where is the organization headed in the next five to seven years?

7 STEP HOSHIN PLANNING PROCESS



Breakthrough activities

Breakthrough activities are those directed at achieving significant performance improvements or making significant changes in the way an organization, department or key business process operates. These activities are typically directed at overcoming the critical business issues the organization will face in the next two to five years. In the broadest sense, these issues may relate to profitability, growth or market share; toward a specific issue such as a quality problem; or in support of a new product or service introduction.

To articulate clearly what needs to be done, the organizations should develop a mission statement. The statement should address what is to be accomplished (the business objective) with a measure of accomplishment (the overall goal) within a given time frame (when). The mission statement describes what the hoshin plan needs to accomplish.

All specific improvements or changes to be made by the organization should contribute directly to the business objectives. These are the hoshin strategies chosen by the leadership team. Each strategy has a strategic goal and process performance measures to continuously monitor performance on each individual strategy. This ensures that the hoshin strategies are being properly carried out and progressing toward their individual strategic goals. If all strategies are successfully accomplished (all strategic goals met), the overall hoshin goal also will be met.

Business fundamentals

Realistically, however, most of the organization's time must be devoted to keeping the business running, i.e., carrying out the value-added activities of the key business processes that fulfill the organization's purpose. The monitoring of these day-to-day value-added activities needs to occur in all parts of the organization. This is how the process owners are able to take real-time corrective action for continuous process improvement (known by the Japanese as kaizen). These selected monitoring points are the business fundamental measures, and together they comprise the business fundamentals table.

The BFT information is collected using process performance measures that reflect the progress of individual process activities (or steps). The PPMs are placed at steps within a key process to ensure that the value-added steps of that process are indeed being performed at the correct time and rate, as well as with the required quality level. These are essentially the performance measures of the organization's key business processes.

Balancing activities

Breakthrough activities can only really be carried out when the business fundamental activities are under reasonable control. If the BFT is under control, some of the time still available should be devoted to continuous process improvement. After achieving this state of continuous process improvement, the organization has time to perform breakthrough activities.

To some extent, the amount of time spent on breakthrough activities is self-regulating. If an organization is struggling to bring key business processes into control, the key business issue for which a breakthrough is needed may be to "bring the BFT into control." This will result in delaying or postponing a loftier hoshin objective but is an essential first step for long-range success (the vision). As the BFT is brought into greater states of control, more of

the organization's time is spent working on the strategies to reach the hoshin objective.

The key point is that most of the breakthrough activity should come from time previously spent on out-of-control BFT items. Dedicated teams will need to provide some focused effort, but the amount of time will depend on the complexity, technology and expertise required by the strategies supporting the objective.

Objectives and Strategies	Goal	Actual Performance	Status	Reasons of Deviation (i.e. Root Causes)	Corrective Measures and Implication for Next Year
1. Increase users' satisfaction	Increase users' loyalty	No documented record	● = Missed	No previous survey was conducted to initiate the improvement	Conduct a users' satisfaction survey on the provision of laboratory services and facilities
2. Develop Intra-MEL information system	Complete information project	Partially completed	○ = Made	The implementation of Intra-MEL plan was interrupted	Remove the interruption and continue the planned upgrade of the Intra-MEL information system

PLAN → DO → CHECK → ACT

The hoshin methodology

In the hoshin process, strategic planning is systematized. The format of the plans is unified via standards. The standardization provides a structured approach for developing and producing the organization's strategic plan. The structure and standards also enable an efficient linkage of the strategic plan through the organization. This ultimately leads to an organizationwide understanding of not just the plan but also the planning process.

This also holds true for the methodology used to review and track the plan's progress. This built-in standardization enables the organization to evaluate decisions made by the organization's leaders and to gauge the effectiveness of selected strategies. Because the review process emphasizes not only results but how decisions are reached, the organization can identify successful decision-making methods and practices. The review methodology is essentially a built-in benchmarking process for the organization's decision making.

As an additional benefit, the review methodology can help identify areas of opportunity for the future. These opportunities can be used to modify failing strategies or point to the next hoshin objective to be pursued. This identifies the next mission to be accomplished as the organization strives for the vision.

These opportunities for the future, coupled with the benchmarking aspect of the review methodology, are the vehicles for organizational learning at all levels.

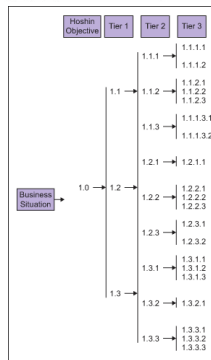
The annual hoshin review

The hoshin planning process is cyclic, following the PDSA improvement cycle. In particular, the review of the plan for the year just completed is the information source for next year's plan. This is a "study" step in the process, and it begins in the middle of the cycle. If this is the first year of the hoshin planning process, reviewing last year's plan in the following format will help the leadership, and the organization as a whole, transition to the hoshin methodology.

Each objective has a hoshin review table, with all supporting strategies listed. For each strategy, use the PDSA cycle to measure the progress against the goal set at the beginning of the year (plan). In addition, record actual results-to-date (do). Note any discrepancy between the results and the plan (study), and state the impact on the strategy for the coming year (act). Complete such a review both for the objectives that were successful and those not attained or incomplete.

For those objectives that were completed successfully, perform an analysis to determine what went right and to determine if the supporting strategies and performance measures initially established were truly appropriate. Also, note any exceptional results and how they were obtained. This step is critical to capturing knowledge of how to "far exceed" and transfer that knowledge to the organization.

Objectives and Strategies	Actual Performance	Status	Reasons of Deviation (i.e. Root Causes)	Corrective Measures and Implication for Next Year
1. Increase users' satisfaction	Increase users' loyalty	● = Missed	No previous survey was conducted to initiate the improvement	Conduct a users' satisfaction survey on the provision of laboratory services and facilities
2. Develop Intra-MEL information system	Complete information project	○ = Made	The implementation of Intra-MEL plan was interrupted	Remove the interruption and continue the planned upgrade of the Intra-MEL information system



For each objective that was not attained, determine the reasons for the deviation. Typically, the analysis consists of the detailed supporting data of all strategies associated with the objective. The strategy owners also should identify what their teams would have changed to be more successful in the year just completed as well as for the future. This looking back and ahead to the future is the key to improving organizational learning. It can greatly benefit the organization in identifying future opportunities.

Annual reviews start generally about the same time in all departments and are initiated by process owners who were involved in last year's plan. Starting at the lowest level that has plan ownership, the review is completed and the information passed up the organizational structure (management levels). Each level then uses the review tables from previous structures (management levels) to complete its own review. Discussions between the different structures of the organization are very important and should result in consensus on the review table results.

In addition to listing objectives from the previous year's plan, the review table can call attention to important issues for the coming year. Because the review table moves up the organizational structure, it is a vehicle for bringing important issues to the leaders' attention. When the review reaches the senior management team, the hoshin review tables highlight the areas in which the organization made significant progress and attained the identified goal, and where changes should be made or more work is needed.

The review is completed using information from:

- Hoshin review tables
- Corporate objectives
- Business plans
- Economic projections

- Customer inputs
- A quality assessment (if conducted)

The senior management team can determine if last year's critical business issues and business objectives (which were selected to address the issues) are still appropriate for the coming year. This also is the time to make sure the organization is providing value to its customers as described by the purpose. Last, is the vision for the organization still appropriate for business conditions?

The annual plan

Senior leadership is ultimately responsible for establishing the strategies, goals and process performance measures to address the organization's issues for the coming year. Some organizations have been successful at using issue teams or management quality teams. These teams consist of the functional managers and senior leaders most involved with a particular issue. Together, they formulate objectives and strategies to best address the critical business issues at hand.

The organization's leadership should be convinced that successfully implementing the selected strategies would make it possible to achieve objectives and resolve issues. (This is the "act" step of the PDSA cycle.)

The annual plan, as its name implies, is the "plan" step in the PDSA cycle of the coming year. Keep in mind that the breakthrough plan may (and should) span more than one year. This year's plan documents what needs to be done this year, and it is not necessarily all that needs to be done. That is why a good hoshin plan is fairly constant for a few years, with only minor modification to the strategies.

Record the organization's objective and strategies in the annual planning table. The APT is then passed down to the next organizational structure. This provides direction and hierarchical linkage to the plan's highest level. The hierarchical linkage attribute of the hoshin plan occurs because of the pass-down process of the plans at each succeeding level.

At each level, the APT from the next higher level is used to develop an APT for that level. Each group simply uses the strategy and strategic goal (or PPM) from above as its objective and goal. Each department or process owner selects the strategy (to be used as its goal) most appropriate to the group's expertise or technical strengths. In this way, the organization's critical issues filter down through the organization, with each level contributing where it appropriately and most effectively adds value. At each succeeding level, strategies are owned, expanded and turned into implementation plans that contribute to reaching the objective and the overall goal.

This is the cascading attribute of the hoshin planning process. It is a very important step in empowering the organization. As each succeeding level accepts its portion of the plan, it has been involved in the plan's development by adding detail where it can best contribute and add value. This is also how the organization buys into the plan; it now has some ownership of the plan itself. The hoshin methodology is a strategic planning process with the built-in ability to empower the organization.

The annual planning table

The APT lists the objective to be achieved as well as the goals. (Note that if there is more than one objective, there are multiple APTs.) The APT also outlines the strategies to be used to achieve the objectives and indicates

who will own each strategy. Most important, the plan includes strategic goals and PPMs for every strategy. These PPMs are specific measures that monitor, guide or measure performance and progress of the strategies. Thus begins the initial phase of the "plan" step of the cycle.

The PPMs should answer the question: How will I know whether a strategy is being implemented successfully? The PPMs could be multiple so that all-important aspects of a strategy are measured. While planning generally cascades downward through the organization, coordination requires plans to be developed at each level in consultation with work groups above, below and laterally (interdepartmental or interprocess). For interdepartmental objectives, members from the involved departments or processes must work together to resolve the PPMs. For such projects, interdepartmental responsibilities should be clearly defined and documented in the annual plan.

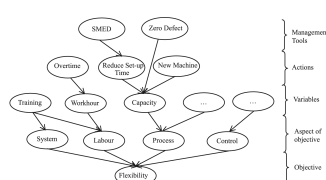
The decision of strategy ownership is usually based on who has the greatest interest, influence or ownership in what must be changed. This plan details where the real process improvement or reengineering occurs. When strategy ownership is at the appropriate level within the organization, the strategy owner develops an implementation plan.

The implementation plan

After all the previous planning has been coordinated and completed, perform the final phase in the "plan" step of the PDSA cycle. The implementation plan is a detailed tactical plan that lists the precise responsibilities of everyone involved in implementing a particular strategy. It is usually laid out in a Gantt chart (or timeline) format, which identifies: how (with what measure), by whom and when.

The implementation plan should include activities, timelines and checkpoints for specific events. The implementation plan is an on-going decision-making tool; plot or note actual performance to plan alongside the planned events and checkpoints. The implementation plan should also include how and when the plan will be reviewed.

Developing an implementation plan usually requires coordination both within and between departments and process owners. Implementation plans are not just the responsibility of the individual completing the lowest-level annual plan. Each level in the organization has detailed responsibilities to ensure support for and successful completion of the organization's plans. This is how the "do" step of PDSA happens.



Periodic hoshin review process

After implementing the plans (once again, the "do" step), begin the periodic hoshin review process. This is the review conducted at the highest level within the organization; it should include all leadership team members. Conduct APT reviews as often as called for in the plans, usually once per month for the BFT. Reviews of the APT should occur at least once per quarter, or monthly, if necessary for finer corrections at crucial times. The review should begin with the BFT snapshot; to gauge the

organization's overall process control, then a review of the breakthrough plan.

The leadership team should review the BFT items on an exception basis with the PPM owner and process owner (department supervisor). Discuss only those items not in control. Data relating to these items should be directly available.

Because the BFT items were developed in cooperation with the process owners and supervisors, reviews of these items should give the leadership team a quick indication of how well a department or a process is performing. The table should detail an analysis of the deviations and corrective action.

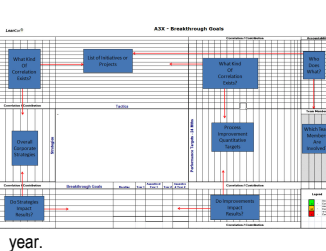
For the APT itself, conduct a review of the supporting strategies, their PPMs and progress toward the overall goal using the hoshin review table. In some cases, the strategy owner and his or her team may be involved in these reviews. The final annual review is essentially a compilation and summary of the hoshin review tables accumulated during the year. This final review returns us to the "study" step described earlier.

The "study" step plays a crucial role in improving organizational learning ability. When actual performance and results are compared and a deviation-from-plan analysis is completed, those closest to the strategy make visible to the organization's leaders a great deal of information.

The strategy review's last step entails identifying the root causes of the deviation. In addition, the review should record the actions taken (the "act" step) in response to this deviation. The actions may comprise as many as three phases:

- *Emergency countermeasure to alleviate the immediate problem.*
- *Short-term fix to prevent the problem from recurring.*
- *Determination and removal of the problem's root cause. This is the permanent solution that will prevent the problem from recurring.*

The APT describes what the organization wants to accomplish during the coming year (the mission) from a breakthrough standpoint on the way to a longer-term goal (the vision). If, during the review process, new and unexpected developments arise or better ways are found for doing things, the plans should change accordingly. When this happens, document and highlight the reasons for the change on the review table. Once again, this helps the organization learn from the plan and improve the planning process for the next



year.

Summary

The hoshin planning process is a very effective strategic planning process that follows the PDSA improvement cycle. For hoshin to succeed, the organization must undergo an effective analysis from both a business fundamentals and strategic planning standpoint. These analyses provide input for the plan. In addition, recognize that breakthrough activities can only occur when the BFT is in reasonable control.

Make sure to identify critical business issues facing the organization and select an objective and goal to overcome the issue. To develop a complete plan and to guide the organization, identify supporting strategies with measures and owners.

To implement the plan, take several steps. Detailed APTs at all levels provide guidance and linkage as well as drive the implementation plans. Assign clear responsibility for each item in the implementation plans. Remember, this is where the real change occurs.

Because significant projects usually require both intra- and interprocess cooperation, develop plans in a cross-functional, cross-departmental and cross-process manner. Extensive discussions within and between departments and process owners are vital to the success of the overall plan.

After the plans have been put in a final form and rolled out, continually monitor each strategy's progress using the established PPMs. Highlight any deviations from the plan on the review tables, which also record actions taken based on results. A strategy is completed when the strategic goal is obtained. Finally, summarize the PDSA cycle for the year in the annual review table.

The hoshin planning process helps an organization learn from both the problems solved and the business successes. This is fundamental to building a learning organization. Hoshin enables an organization to collect and study performance information about itself from both day-to-day and long-term measures. Last, it helps the organization think about where it is headed and the best way to get there, with both hands on the wheel.

Review	Edit	Hide Metrics	Hide Strategy	Show Details	Printer Friendly	Print
2006 Hoshin Plan 1.0: Establish ourselves as a multi-vendor support company.						
Demo Corp.	Market Development	Numer, Kevin	North, George	Created On:	Jan 13	Last Revised:
Business Situation						
We are relatively successful, growing, and profitable along with the market. Research tell us that our customers value our support services and wish we could support the competitors products also in the cases where we do not have 100% portfolio installations. We see an opportunity to move into multivendor support to significantly grow our business.						
Objective (Owner)	#	Strategy (Owner)	Performance Metrics (Targets)			
1.0: Establish ourselves as a multi-vendor support company (Nusser, Kevin)	1.1	Learn how to service product portfolio of competitors with the largest footprint in our installed base. (Johnson, Steve)	% Competitors products we can service (1Q: 50, 2Q: 75, 3Q: 100, 4Q: 100)			
Performance Metrics (Targets)	1.2	Establish spare parts support program for targeted competitor products. (Phuyen, Lua)	% Spare parts account (1Q: 25, 2Q: 100, 3Q: 100, 4Q: 100)			
Multi-vendor support revenue (1Q: 10, 2Q: 15, 3Q: 30, 4Q: 75)	1.3	Create and execute a marketing initiative around supporting the targeted competitor. (O'Brien, John)	% Market acceptance of our multi-vendor support of targeted competitor. (1Q: 2, 2Q: 30, 3Q: 50, 4Q: 70)			
	1.4	Establish the contracts, administration, technical support, and sales staff necessary for the success of multivendor support. (Jenkins, Ellen)	% Support structure in place (1Q: 33, 2Q: 100, 3Q: 100, 4Q: 100)			
2006 Hoshin Plan 1.2: Establish spare parts support program for targeted competitors' products						
Demo Corp.	Market Development	Nusser, Kevin	North, George	Created On:	Jan 13	Last Revised:
Business Situation						
We are relatively successful versus competition, growing, and profitable along with the market. Research tell us that our customers value our support services and wish we could support the competitors products also in the cases where we do not have 100% portfolio installations. We see an opportunity to move into multivendor support to significantly grow our business.						
Strategy (Owner)	1.2.1	Create BOM of parts needed and associated resources (Phuyen, Lua)	4 - - 3			
	1.2.2	Identify alternative suppliers for all stock parts (Phuyen, Lua)	21 - - - - - 10			
Performance Metrics (Targets)	1.2.3	Have Purchasing conduct supplier quality and capability assessments on potential suppliers (Meje, Niki)	20 - - - - - 8			
% Spare parts account (1Q: 25, 2Q: 100, 3Q: 100, 4Q: 100)	1.2.4	Select preferred suppliers (Smith, George)	16			
	1.2.5	Establish processes to have supplier materials available at customer sites (Nusser, Kevin)	17 - 17			