MARINO ASSOCIATES, LLC
SPECIALIZING IN CONSULTING AND EDUCATION

Lean Checklist Self-Assessment

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LEAN CHECKLIST
SELF-ASSESSMENT

	(See question explanations starting on page 10)	**Low**	**Med**	**High**
1.	Management provides leadership and visible participation in the lean program.			
2.	A documented business plan, including lean strategies, is communicated throughout the organization.			
3.	Performance measures are established by Best in Class benchmarking, made visible throughout the organization, and progress is reviewed on a regular basis – cost, quality and deliverability.			
4.	Management uses a formal process to identify and track lean changes to products, processes and operating procedures.			
5.	Lean activities are dispersed throughout the organization.			
6.	Lean education and training facilitators have been identified and trained.			
7.	80% of the people, in the organization, have received appropriate lean education.			
8.	Continuing lean education and training programs are in place.			
9.	Ongoing cross-training programs for key functions are in place.			
10.	Frequent proactive communication is established with all key customers. (Demand Management)			
11.	Process capability has been demonstrated as meeting product specifications.			
12.	Key process variables have been identified and are being routinely controlled using statistical process control techniques. (SPC)			
13.	Control processes are in place to allow only conforming materials, supplies and components to be used.			
14.	Policies and procedures are in place to ensure that production and measuring equipment is calibrated on an appropriate basis.			
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LEAN CHECKLIST
SELF-ASSESSMENT

(See question explanations starting on page 10)

		Low	Med	High
15.	Customer satisfaction is routinely measured and analyzed to identify areas for improvement.			
16.	Long-term relations are established with key suppliers based on their ability to meet manufacturing needs: costs, quality and deliverability (JIT II.)			
17.	Future plans (manufacturing volumes and new products) are routinely shared with key suppliers resulting in confirmation of the supplier's ability to meet projected requirements.			
18.	Suppliers conform to specifications (quantity, quality and due date) when received and require no further testing or inspection by the user.			
19.	Supplier and customer visits occur to maintain a good understanding of each other's needs: quality, quantity and deliverability (Supply Chain Management.)			
20.	The total inventory of supplies between suppliers and customers is being continually reduced. (VMI)			
21.	Simultaneous improvement has been achieved in inventory turns, unit cost and lead time reduction. (KAISEN)			
22.	Product and information flow is being continually improved through implementation of lean cells and redesign of layouts for simplification. (HEI-JUNKA)			
23.	Production problem data is recorded, reviewed daily at the workplace and a process is in place to resolve those problems that impact the effectiveness of the operation. (CCAR)			
24.	Problems that have been identified are quickly resolved.			
25.	Processes utilize visual management concepts. (5S)			
26.	Good housekeeping practices and principles are apparent throughout the organization. (5S)			
27.	Equipment effectiveness is being continually evaluated and improved.			
28.	Total productive maintenance concepts are understood and practiced. (TPM)			
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LEAN CHECKLIST
SELF-ASSESSMENT

(See question explanations starting on page 10)

		Low	Med	High
29.	Critical constrained resources are identified and managed effectively. (TOC)			
30.	Setup time on key equipment is being continually reduced. (SMED)			
31.	Mistake-proof and fail-safe concepts are understood and practiced through-out the organization. (POKKA-YOKE)			
32.	Workplaces exhibit good ergonomic design principles.			
33.	Product rationalization is performed.			
34.	Waste reduction programs are in place and progress is documented and visible throughout the organization. (MUDA – 7 WASTES)			
35.	Products are produced and delivered at the customer usage rate. (Kanban)			
36.	Production is stopped when off-standard material is detected.			
37.	Tools, resources and supplies are available when and where needed.			
38.	Multidisciplinary teams are established and are responsible for operating, maintaining and improving the material flow.			
39.	People have the opportunity and are expected to continually develop and upgrade their capabilities.			
40.	Operations are designed using input from all key stakeholders.			
41.	The workforce flexibility is being continually increased.			
42.	Retraining is provided for people whose current skills are no longer needed.			
43.	Lean implementation team performance, relative to the organization's mis-sion, principles and overall manufacturing strategies, is defined and visible.			
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LEAN CHECKLIST
SELF-ASSESSMENT

	(See question explanations starting on page 10)	Low	Med	High
44.	Performance measures focus on the overall effectiveness of the organization.			
45.	Process engineering designs incorporate the lean concepts of short setup time, flexible processes, high reliability, and ergonomic design.			
46.	Product design criteria maximize ease of manufacturing. (QFD)			
47.	A process is in place to forecast and accommodate future needs for new or revised customer product specifications.			
48.	Small, simple and movable machines that are similar to existing machines are used where possible.			
49.	Paperwork is continuously reduced and, where feasible, replaced by electronic information processing.			
50.	Input source data is not needlessly repetitive within information systems. If repetition does exist, it is managed electronically.			
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Whew! You are DONE! → See page 7, 8, and 9 for scoring worksheets.

LEAN CHECKLIST SCORING INSTRUCTIONS

1. **Management provides leadership and visible participation in the lean program.**

   If all of the organization's key managers lead and participate in goal settings, implementation planning, education, training, and performance recognition for the LEAN program, the score is HIGH. If some participate in all of these activities, the score is MEDIUM. Otherwise, the score is LOW.

2. **A documented business plan, including lean strategies, is communicated throughout the organization.**

   If each business unit prepares a 3 to 5 year business plan which includes LEAN based strategies as well as outlining topics such as profits, volume, new products, product life cycle, strategies and competitive advantage, and this has been communicated to at least 80% of the employees in the organization unit, the score is HIGH. If the plan is prepared but receives limited visibility, the score is MEDIUM. Otherwise, the score is LOW.

3. **Performance measures are established by Best in Class benchmarking, made visible throughout the organization and progress is reviewed on a regular basis cost, quality and deliverability.**

   If performance measures have been benchmarked and upgraded to reflect Best in Class, made visible throughout the organization and progress is reviewed on a regular basis (cost, quality and deliverability), the score is HIGH. If the performance measures are established, reviewed on a regular basis, but visibility is limited, the score is MEDIUM. Otherwise, the score is LOW.

4. **Management uses a formal process to identify and track lean changes to products, processes and operating procedures.**

   If evidence exists that organization management supports, initiates and uses a formal process to drive lean implementation programs in the organization, the score is HIGH. If there is a process in place for identify-

ing the most beneficial changes, but implementation is not managed formally, the score is MEDIUM. Otherwise, the score is LOW.

5. **Lean activities are dispersed, throughout the organization, using formal project management.**

   If all parts of the organization have lean programs functioning the score is HIGH. If only some parts of the organization have lean programs, the score is MEDIUM. Otherwise, the score is LOW.

6. **Lean education and training facilitators have been identified and trained.**

   If all operating units in the organization have LEAN education, and training facilitators identified and trained, the score is HIGH. If some, but not all of the units have trained facilitators, the score is MEDIUM. Otherwise, the score is LOW.

7. **80% of the people in the organization have received appropriate lean education.**

   If the lean education and training requirements for each job function have been specified, and 80% of the people have completed the requirements, the score is HIGH. If more than half of the people have completed training for their job, or 80% of the people have completed more than half of the specified education and training, the score is MEDIUM. Otherwise, the score is LOW.

8. **Continuing lean education and training programs are in place.**

   If assessments are frequently made to determine what topics of education and training are necessary to improve operations, break new ground in excellence, improve understanding in areas of weakness, and the identified topics appropriate to their jobs are frequently covered with employees, the score is HIGH. If assessments are made, but people do not receive training to extend their skills and knowledge in lean excellence, the score is MEDIUM. Otherwise, the score is LOW.

9. Ongoing cross-training programs, for key functions, are in place.

If a formal plan is in place to track which jobs operators are certified to perform, assessments are frequently made to determine where the flexibility of the operation can be increased through additional cross-training, and when cross-training needs are identified, a plan is established to insure cross-training needs are met, the score is HIGH.
If assessments and cross-training is occasionally done, but it is not part of an overall plan, the score is MEDIUM. Otherwise, the score is LOW.

10. Frequent proactive communication is established with all key customers. (Demand Management)

If weekly communication is made to all key customers reviewing backlog, inventory position, and next 13-week demand, the score is HIGH. If regular communication exists, but there is no formal process, the score is MEDIUM. Otherwise, the score is LOW

11. Process capability has been demonstrated as meeting product specifications.

If process capability studies have been conducted, and verify that the equipment and processes are capable of meeting the product specifications, the score is HIGH. If process capability studies have been conducted to prove that the equipment and processes are capable of meeting some of the product specifications, the score is MEDIUM. Otherwise, the score is LOW.

12. Key process variables have been identified and are being routinely controlled using statistical process control techniques. (SPC)

If key process variables have been identified and are being controlled, using statistical process control techniques, the score is HIGH. If key process variables have been identified and some of the variables are being controlled, the score is MEDIUM. Otherwise, the score is LOW.

13. Control processes are in place to allow only conforming materials, supplies and components to be used.

If nonconforming materials, supplies and components are never used, as a result of effective control processes, the score is HIGH. If nonconforming materials, suppliers and components are occasionally used, the score is MEDIUM. Otherwise, the score is LOW.

14. Policies and procedures are in place to ensure that production and measuring equipment is calibrated on an appropriate basis.

If policies and procedures exist so that production and measuring equipment is calibrated on an appropriate basis, and evidence exists that the procedures are followed, the score is HIGH. If procedures are in place, but they are sometimes not followed, the score is MEDIUM. Otherwise, the score is LOW.

15. Customer satisfaction is routinely measured and analyzed to identify areas for improvement.

If customer satisfaction is routinely measured, analyzed to identify areas for improvement, and action is taken, the score is HIGH. If customer satisfaction is measured, analyzed to identify areas for improvement, but limited action is taken, the score is MEDIUM. Otherwise, the score is LOW.

16. Long-term relations are established with key suppliers based on their ability to meet manufacturing needs: costs, quality and deliverability. (JIT II.)

If programs are in place, and result in long-term relations being established with key suppliers based on their ability to meet manufacturing needs (cost, quality and deliverability), the score is HIGH. If limited key supplier programs are in place, and some key supplies are purchased with negotiations focused on only price, the score is MEDIUM. Otherwise, the score is LOW.

17. Future plans (manufacturing volumes and new products) are routinely shared with key suppliers resulting in confirmation of the supplier's ability to meet projected requirements.

If future plans (manufacturing volumes and new products) are routinely shared with key suppliers, and this process results in knowledge of the supplier's ability to meet the projected requirements, the score is HIGH. If occasionally future plans are not shared with key suppliers or informed key suppliers fail to reliably confirm their capability to meet the plans, the score is MEDIUM. Otherwise, the score is LOW.

18. Supplies conform to specifications (quantity, quality and due date), when received and require no further testing or inspection by the user.

If 98% of the last three months of supply orders conform to specifications (quantity, quality and due date), when received and require no further testing, the score is HIGH. If 85% to 97% of the supplier's orders do not conform to specifications, the score is MEDIUM. Otherwise, The score is LOW.

19. Supplier and customer visits occur to maintain a good understanding of each other's needs: quality, quantity and deliverability. (Supply Chain Management)

If there are frequent visits between the key suppliers and users and documentation shows that there is a good understanding of each other's needs, the score is HIGH. If there are only occasional visits or there is not a demonstrated understanding of each other's needs, the score is MEDIUM. Otherwise, the score is LOW.

20. The total inventory of supplies between suppliers and customers is being continually reduced. (VMI)

If customers and suppliers are working together to continually reduce the total level of inventory between their operations and the level of inventory has decreased over time, the score is HIGH. If customers and suppliers are working together to reduce inventory, but the level of inventory is continually reduced, the score is MEDIUM. Otherwise, the score is LOW.

21. Simultaneous improvement has been achieved in inventory turns, unit cost, and lead time reduction. (KAISEN)

If all three of the factors are on an improvement trend, the score is HIGH. If two are improving, the score is MEDIUM. Otherwise, the score is LOW.

22. Product and information flow is being continually improved through implementation of lean cells and redesign of layouts for simplification. (HEIJUNKA)

If the concepts of lean cells and the importance of layout simplification are understood by people throughout the organization, and the product and information flow is being continually improved through the implementation of these concepts, the score is HIGH. If there is limited application of these concepts with improved information and product flow, the score is MEDIUM. Otherwise, the score is LOW.

23. Production problem data is recorded, reviewed daily at the workplace and a process is in place to resolve those problems that impact the effectiveness of the operation. (CCAR)

If formal systems are in place to identify, record, and summarize daily production problems at each workplace and a process is in place to review and resolve those that impact the effectiveness of the operation, the score is HIGH. If production problem data is collected but is handled in an informal manner, the score is MEDIUM. Otherwise, the score is LOW.

24. Problems that have been identified are quickly resolved.

If problems are identified, as described in question #23, and these problems are prioritized and quickly resolved in a systematic manner, the score is HIGH. If the production problems that have been identified are not quickly resolved or dealt with in a systematic manner, the score is MEDIUM. Otherwise, the score is LOW.

25. Processes utilize visual management concepts. (5S)

If visual management (Kanban cards, Kanban squares, Andon Lights, tool identification, proper location and height of walls, etc.) concepts are understood and practiced extensively, the score is HIGH. If the concepts are understood, but have limited application, the score is MEDIUM. Otherwise, the score is LOW.

26. Good housekeeping practices and principles are apparent throughout the organization. (5S)

If policies and procedures exist that result in work-sites that are neat, clean and orderly, and there is a procedure in place to regularly audit and correct inadequacies, the score is HIGH. If policies and procedures exist but they are not always followed, the score is MEDIUM. Otherwise, the score is LOW.

27. Equipment effectiveness is being continually evaluated and improved.

If a process is in place for all operating areas to continually audit equipment performance, and the results of the audits show that equipment is continually becoming more productive, the score is HIGH. If there are equipment improvement processes in place for some operating areas, and performance is on an improving trend, the score is MEDIUM. Otherwise, the score is LOW.

28. Total productive maintenance concepts are understood and practiced. (TPM)

If there is a defined education, training and implementation program for Total Productive Maintenance (TPM) concepts, and evidence exists showing broad application and results, the score is HIGH. If there is a defined program, but application is limited in scope, the score is MEDIUM. Otherwise, the score is LOW.

29. Critical constrained resources are identified and managed effectively. (TOC)

If there is an aggressive program to identify critical constrained resources (CCR), establish time buffers in front of the CCR, and the flow through the system is synchronized as a function of the CCR throughput, the score is HIGH. If there are limited programs to manage CCR, the score is MEDIUM. Otherwise, the score is LOW.

30. Setup time on key equipment is being continually reduced.

If there is an aggressive program to reduce the setup time on key pieces of equipment in all operating areas, and setup time on key pieces of equipment is tracked and shows an improving trend, the score is HIGH. If some operating areas have programs to reduce setup time, and these show an improving trend, the score is MEDIUM. Otherwise, the score is LOW.

31. Mistake- proof and fail-safe concepts are understood and practiced throughout the organization. (POKA-YOKE)

If mistake-proof and fail-safe concepts are understood and have wide application throughout the organization, the score is HIGH. If these concepts are understood, but application is limited, the score is MEDIUM. Otherwise, the score is LOW.

32. Workplaces exhibit good ergonomic design principles.

If ergonomic concepts are widely understood, and evidence exists that workplaces are designed based on good ergonomic design principles, the score is HIGH. If there is limited understanding and application of ergonomic design principles, the score is MEDIUM. Otherwise, the score is LOW.

33. Product rationalization is performed.

If product discontinuance and new product reviews are held, at least quarterly, and appropriate actions pertaining to inventory levels, and other affected factors are taken throughout the supply chain, the score is HIGH. If reviewed, but less frequently, or appropriate actions are occasionally not taken, the score is MEDIUM. Otherwise, the score is LOW.

34. Waste reduction programs are in place and progress is documented and visible throughout the organization. (MUDA–7 WASTES)

If broad-based waste reduction programs are in place, waste levels are tracked and made visible throughout the organization, and these programs show an improvement trend, the score is HIGH. If limited waste reduction programs exist, and levels show an improvement trend, the score is MEDIUM. Otherwise, the score is LOW.

35. Products are produced and delivered at the customer usage rate.

If products representing at least 90% of the total production volume are produced and delivered at the customer usage rate, the score is HIGH. If products representing between 50% to 89% of the total production volume are produced and delivered at the customer usage rate, the score is MEDIUM. Otherwise, the score is LOW.

36. Production is stopped when off-standard material is detected.

If there are policies and procedures throughout the organization requiring that production be stopped when off-standard material is detected, and these procedures are always adhered to, the score is HIGH. If there is limited application of these policies and procedures, the score is MEDIUM. Otherwise, the score is LOW.

37. Tools, resources and supplies are available when and where needed.

If evidence exists for 90% of the operating areas that tools, resources, and supplies are available when and where needed, the score is HIGH. If 50% to 89% of the operating areas have tools, resources, and supplies immediately available, the score is MEDIUM. Otherwise, the score is LOW.

38. Multidisciplinary teams are established and are responsible for operating, maintaining and improving the material flow.

If multidisciplinary teams are used throughout the organization, and these teams have the responsibility for operating, maintaining and improving the material flow, the score is HIGH. If multidisciplinary teams are only occasionally used, or if the teams do not have the responsibility for operating, maintaining and improving the material flow, the score is MEDIUM. Otherwise, the score is LOW.

39. People have the opportunity and are expected to continually develop and upgrade their capabilities.

If there is evidence that all people are provided opportunities to develop and upgrade their capabilities, and individual capability development is a key measure of performance, the score is HIGH. If some people are provided opportunities to upgrade their capabilities, or if individual capability development is not a key performance measure criteria, the score is MEDIUM. Otherwise, the score is LOW.

40. Operations are designed using input from all key stakeholders.

If new and revised equipment and processes are designed with input from all of the affected key stakeholders, and evidence exists that this is broadly applied throughout the organization, the score is HIGH. If design input is limited to a few key stakeholders, the score is MEDIUM. Otherwise, the score is LOW.

41. The workforce flexibility is being continually increased.

If the workforce flexibility is being continually increased through such activities as cross-training and reducing the number of job descriptions, and evidence suggests application throughout the organization, the score is HIGH. If all activities are carried out, but on a limited local basis, the score is MEDIUM. Otherwise, the score is LOW.

42. Retraining is provided for people whose current skills are no longer needed.

If policies and procedures exist and are applied uniformly across the organization for retraining of people whose current skills are no longer needed, the score is HIGH. If policies and procedures exist, but are not applied uniformly, the score is MEDIUM. Otherwise, the score is LOW.

43. Lean implementation team performance, relative to the organization's mission, principles and overall manufacturing strategies is defined and visible.

If lean implementation team performance is documented as to how it relates to the organization's mission, principles and overall manufacturing strategies, and this information has wide-dissemination, the score is HIGH. If documentation exists, but is limited in visibility, the score is MEDIUM. Otherwise, the score is LOW.

44. Performance measures focus on the overall effectiveness of the organization.

If performance measures focus on total effectiveness (i.e., cycle/lead time, due date performance, inventory turns, space utilization, unit costs, etc.), and are in use throughout the organization, the score is HIGH. If global performance measures exist, but have limited application in the organization, the score is MEDIUM. Otherwise, the score is LOW.

45. Process engineering designs incorporate the lean concepts of short setup time, flexible processes, high reliability, and ergonomic design.

If there are effective, broadly applied policies and procedures in place to ensure that process engineering designs incorporate the lean concepts of short setup time, flexible processes, reliability and ergonomic concepts, etc., the score is HIGH. If policies and procedures exist, but have limited application of lean concepts, the score is MEDIUM. Otherwise, the score is LOW.

46. Product design criteria maximizes ease of manufacturing. (QFD)

If product design criteria address maximizing ease of manufacturing (i.e., low part count, use of standard parts, ease of assembly, etc.) and is broadly applied, the score is HIGH. If manufacturing issues are addressed on an infrequent basis, the score is MEDIUM. Otherwise, the score is LOW.

47. A process is in place to forecast and accommodate future needs for new or revised customer product specifications.

If a formal process is in place and used to forecast and accommodate future needs for new or revised customer product specifications, the score is HIGH. If a formal process is in place, but limited in use, the score is MEDIUM. Otherwise, the score is LOW.

48. Small, simple and movable machines that are similar to existing machines are used where possible.

If evidence exists to demonstrate that all new or revised processes are reviewed for the application of the concept of using small, simple, similar and movable machines to increase the flexibility for product changeovers, new or changed products, reduce product variability, simplify maintenance, and the ability to quickly change the process to meet the current market requirements, the score is HIGH. If reviews are limited in scope or application, the score is MEDIUM. Otherwise, the score is LOW.

49. Paperwork is continuously reduced and, where feasible, replaced by electronic information processing.

If there is a formal, broadly applied process in place to eliminate paperwork, utilizing electronic processing where feasible, and results indicate ongoing improvements, the score is HIGH. If there is a process that is limited in scope and application, the score is MEDIUM. Otherwise, the score is LOW.

50. Input source data is not needlessly repetitive within information systems. If repetition does exist, it is managed electronically.

If there are policies and procedures in place that provide for regular reviews of source data entry, and evidence exists that the process is adhered to and results in documented changes, the score is HIGH. If policies and procedures exist, but have limited application or adherence, the score is MEDIUM. Otherwise, the score is LOW.

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