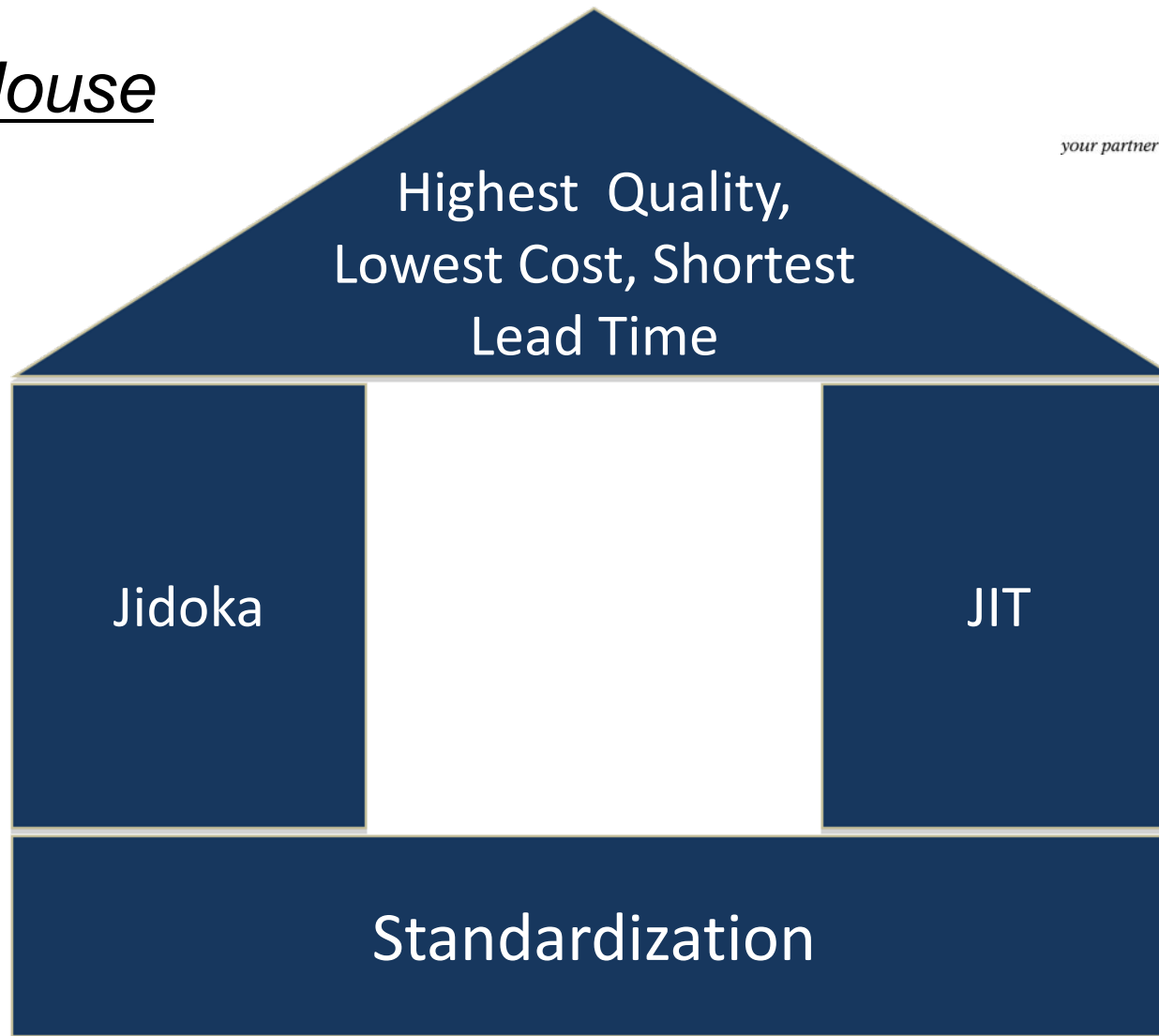


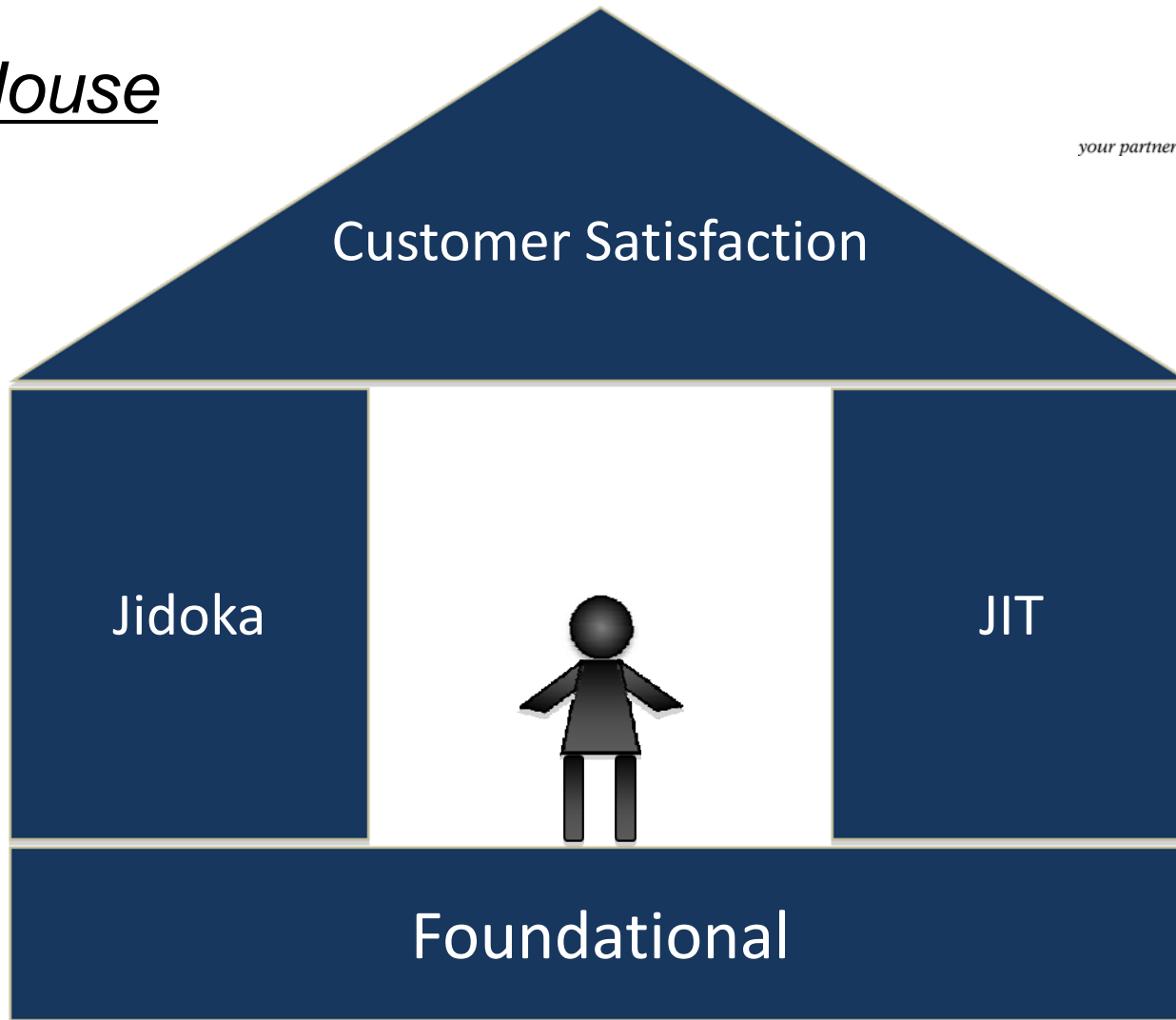
TPS House



This simple house was used to visually describe the Toyota Production System.

Other versions of the TPS house should be used to clarify your understanding. Based on our experience we have added details, which you might find useful.

TPS House



Continuing with the symbolism of the house we have 5 components of the house:

1 Foundational 2 Jidoka Walls 3JIT Walls 4 Customer Satisfaction Roof 5 People

The order represents the sequence of construction but TPS is built around the people.

The foundation of the TPS house is the most overlooked component of TPS / Lean Management. Just like a real house the foundation needs to be large enough to support the walls and roof. The invested efforts on the foundation will assist in the sustainability of your system.

The foundation consists of:

1. Customer First – A company exists because somebody is willing to pay for a service or product. Only the customer can determine the value of the product or service.
2. Respect for Humanity – Creating work environments that are safe and promote job enrichment, using talents of all Associates.
3. Genba - Actual worksite or workplace where the value is created.
4. Genchi Genbutsu – Actual place, actual thing also translated as “go and see.” Spend time observing the process versus hearing about it.
5. Stability - Refers to reliable machines workforce and material.
6. Standards – Agreed upon quality levels and ways of working.
7. Heijunka – Leveled production based on the market and capacity.
8. Safety – Always considered in each process

Foundational

The first pillar of the TPS house was created by Sakiichi Toyoda. His philosophy was quality should be built in not inspected in. Autonomation or automation with a human touch means automatic equipment should not continue to run while making defects.

Jidoka also helps to create a sense of urgency and drive immediate countermeasures.

Components of jidoka are:



Jidoka

1. Poka yoke – A device which prevents mistakes from happening.
2. Andon – A warning system to tell others of a problem. A light, sound or pull cord system to call attention to problems.
3. 5S – Seiri (Sort out), Seiton (Set in place, arrange), Seiso (Sweep, wash, cleaning), Seiketsu (Sanitize) and Shitsuke (Sustain, discipline).
4. A3 Reports– Process of writing proposals and solving problems.
5. 5 Why's – Process of getting to the root cause of a problem.
6. Visual Control – Any tools such as production boards that tell you the normal from abnormal conditions.
7. TPM – Total Preventive Maintenance is utilized to prevent unplanned downtime.

TPS House

The second pillar of the TPS house was created by Kiichiro Toyoda. Due to limited capital JIT was created to produce vehicles on an as needed basis. Producing what you need, in the quantity needed and when you need it. Tools of JIT are:

1. Kanban – Direct translation is a sign board. It now represents a communication system to tell the previous process what, when and how many to make
2. Eliminating waste (muda, muri, mura)
3. Muda – 7 forms of waste.
4. Muri – Over burden. Processes that are not reasonable.
5. Mura – Uneven or unlevelled work load.
6. TAKT time – Pace at which customers require the product or service.
7. Single Minute Exchange of Dies (SMED) – The goal of reducing change-over times to a single digit.
8. VSM – Value Stream Mapping is a tool to examine the way your business flows material and information.



JIT



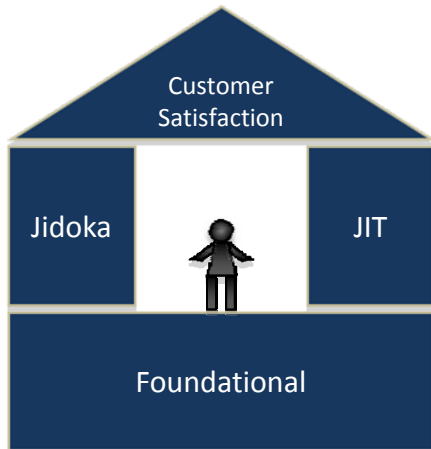
Customer Satisfaction

The roof of the house represents what the customer wants. At Toyota it is “Highest Quality, at the Lowest Cost, in the Shortest Lead-time” Safety was implied and later added to clear up ambiguity.

When you look at a house the first impression is the size. The eyes are naturally drawn to the roof line. What are your customers looking at when they see your house?

- 1.Measure of success – repeat customers and referrals
- 2.Internally measured success was Defects per Unit (DPU), Scrap, Efficiency
- 3.Control Boards – Feedback from both internal and external customer processes.
- 4.Benchmarking – Comparing to both within and outside of industry standards

TPS House



The purpose of any house is to provide shelter. The people on the inside are both the stake holders and share holders. The mutual benefit of job security and profit is made possible through efforts in:

1. Kaizen – Process of making continuous improvements in both your personal and work life. The direct translation is kai = change and zen = good.
2. Hoshin Kanri – Setting company and personal goals, reviewing and reflecting regularly to determine action needed.
3. Providing Associate development.
4. Transitioning People from non value added to value added activities.