

Internet Kanban delivers just in time

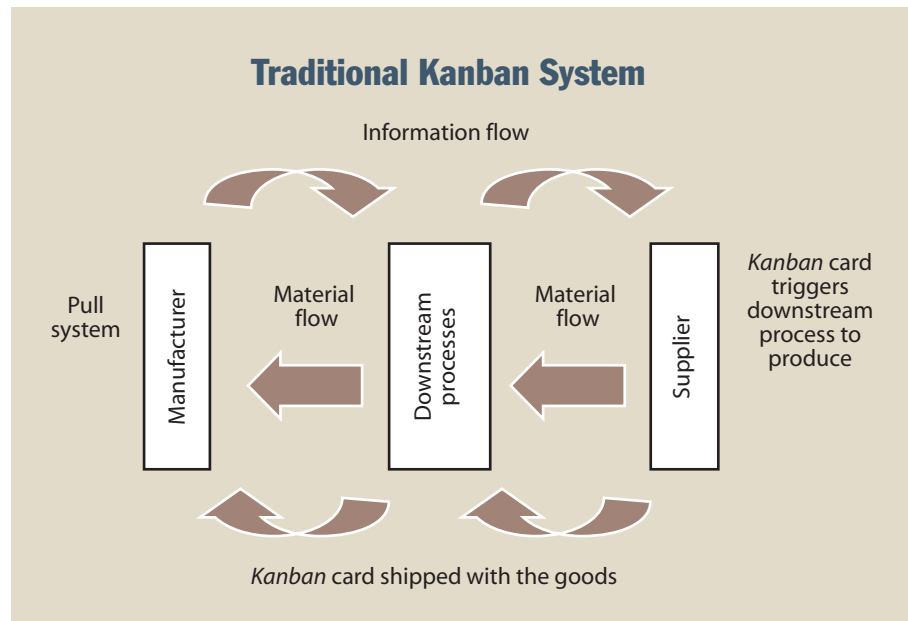
Toyota is regarded as an industry leader and has developed one of the premier manufacturing systems today called the Toyota Production System or TPS. Toyota uses a manufacturing principle referred to as Just in Time (JIT) as a tool for process improvement. This type of manufacturing system has allowed the company to substantially improve the value stream, that is, increase profitability and build high-quality, low-cost products at high efficiencies. “*Kanban*” is one of the methodologies employed to achieve process improvement and is one of the key components of the Toyota Production System. *Kanban* is the tool Toyota uses to achieve just in time.

“*Kanban*” is a Japanese term for “visual record,” which directly or indirectly drives much of the manufacturing organization; it is a card that travels with the parts. It is a signal that instructs the previous process, subassembly or supplier to deliver more parts as they are consumed. This is referred to as a “pull” system, producing only what is needed when it is needed and in the correct quantities. A “push” system would rely on a forecast to produce. A forecast generally is not reliable and leads to excessive inventory and poor communications with the supply chain, building in inefficiencies, large inventory and overhead. The best way to achieve JIT is to build to the customer order — not to forecast.

Today's business needs

Businesses need JIT systems to keep expensive inventory-carrying costs to a minimum. In many cases, inventory can be considered a waste of valuable resources — working capital, unnecessary storage space, additional handling — and often leads to obsolete or slow-moving stock. Many times, this stock stays on the books for months or years.

Implementing the recognized JIT improvements with a manual *Kanban* system has a steep learning curve and



initially can be inefficient. Trying to integrate *Kanban* with an existing enterprise resource planning (ERP) system can be expensive, and may lead to time-consuming software adaptations and development costs. Many managers shun the manually intensive visual-control system that *Kanban* forces them to embrace. Not just internal to manufacturing operations but externally, the cards have to be delivered to the supply chain (in the overnight mail, fax, etc.). Often this leads to inefficiencies and the ultimate failure of a manual card system.

Anyone familiar with manual card-system implementation will share hard-learned lessons about lost cards and additional manpower requirements. How do you create collaboration in the supply chain? How can large and small companies implement a *Kanban* card system and avoid the unnecessary inefficiencies?

Web-based operational tools

Internet-based *Kanban* is a just-in-time management tool that you can use

to drive down costs, integrate disparate ERP systems and communicate throughout the supply chain. Electronic *Kanban* is a Web-based “lean” management tool that will integrate the customer order throughout your organization, from the shop floor through raw material suppliers. Web-based *Kanban* provides a tool for total customer satisfaction and increased efficiencies through the elimination of lead times, based on lean manufacturing techniques. Finally, this is a solution that makes the Internet an operational tool on the shop floor. Manage the supply-chain collaboration with real-time information on the shop floor, based on the customer demand. Link the value stream through the Internet providing the customer what they need, when they need it. Make use of real-time information to improve your operational performance.

Why not use the Web?

Businesses today are attempting to replicate the advantages of lean enterprises to achieve the benefits of JIT.

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KANBAN

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Seen not only as a competitive edge for organizations, many see it as the only way to survive in an increasingly competitive global environment. A *Kanban* card is a visual communication tool and a production instruction that must be managed. With *Kanban*, the “card” is visually represented on a low-cost system and is “managed” by the appropriate user. The Web interface tool has been developed to emulate all the processes that a manual or physical card system would be required to do, with all the security, controls and management “flags” that the complexity of a manual *Kanban* system requires.

Types of Web-based *Kanban* systems

Use the Internet or Web based *Kanban* system to emulate current processes. Generally these systems can be categorized into four functions:

- *Inter-plant systems or business-to-business* systems exist in an operating unit or are integrated across divisions to supply component assemblies, to a final assembly plant for shipment, to the end customer
- *Supplier systems* emulate the process of reordering raw materials based on consumption (pull) rather than scheduled or forecasted (push) demand
- *Customer systems* are commonly applied by original equipment manufacturer (OEM) customers to tier 1 suppliers to signal the replenishment or consumption of parts
- *Internal systems* depict the process of resupplying the point of use from a raw materials “supermarket”

Each process step is administratively controlled to replicate the activities on the shop floor.

For example, in the inter-plant system, goods are received on the receiving dock and the raw materials are barcoded/scanned into the “*Kanban* Store.” Next, materials consumed at the line are replenished from this store via *Kanban* cards, as materials are used, barcoded boxes are released to replenishment points at the point-of-use line side.

What the Web delivers

Suppliers are constantly put under pricing pressure to deliver in shorter lead times forced by corporate mandates to

conform to expensive infrastructure improvements such as electronic data interchange (EDI). How do you communicate enterprise wide in a multinational manufacturing environment? How do wholesale, retail, distribution businesses implement the benefits of *Kanban*? How can a large company communicate with hundreds of suppliers? How can small companies compete without added manpower or the major capital expense involved in maintaining an ERP system? Suppliers have to cope with fluctuating material requirements and expensive EDI solutions, not to mention the headcount requirements involved and information systems infrastructure.

Avoid systemic problems involved with a manual *Kanban* card system. Accelerate the organizational/cultural learning curve and avoid the inefficiencies of manual

RETIREMENT

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With a *money-purchase plan*, the same percentage of an employee’s compensation is contributed each year regardless of profits. Because contributions under this type of plan are not flexible, a company must be willing to commit to a fixed annual-contribution expense.

A *target-benefit plan* is a cross between a defined-benefit and a money-purchase plan. The annual contribution is determined by the amount needed each year to accumulate enough assets to pay a projected retirement benefit. Benefits payable to the participant may increase or decrease based on investment performance. This type of plan works well when you are seeking to weight plan benefits toward older, key employees.


A *401(k) plan* allows employees to contribute pre-tax dollars through a salary reduction agreement. The plan can also be designed to provide for matching or discretionary employer contributions.

The *SEP-IRA* may be especially suitable for new businesses or companies with cyclical profit histories seeking a flexible, low-cost retirement plan. SEP-IRAs are simplified alternatives to profit-sharing plans, involving less paperwork and cost to the employer.

The *Savings Incentive Match Plan for Employees* is a retirement vehicle designed for businesses with 100 or fewer

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Kanban systems. Internet-based *Kanban* systems deliver just-in-time solutions and provide operational tool manufacturing — something that has been sorely missed by large enterprise resource planning providers. 

employees. SIMPLE plans are appropriate for employers seeking to establish a 401(k)-type employee savings plan without the administrative costs and complexities associated with a traditional 401(k) plan. A SIMPLE can be established as a SIMPLE IRA, in which contributions would be made to an IRA — established on behalf of each participating employee, or as a SIMPLE 401(k).

Where to get help

Developing and managing a good retirement program for your business may not be easy, but there are professionals who can help you to choose and administer a plan. Financial advisors can also offer other services such as plan design, investment management and pre-retirement employee counseling. You should discuss your options with your tax advisor and accountant. Similarly, employees can also benefit from the advice of a professional when choosing from among the various investment options available under their plans.

Retirement planning for you and your employees is far too important to put off. Take the time now to understand your choices and clarify your goals. There are a number of tools available to help analyze the future needs of both you and your employees. Remember that professional advice can be crucial in creating a plan that is appropriate for you and your business. 