



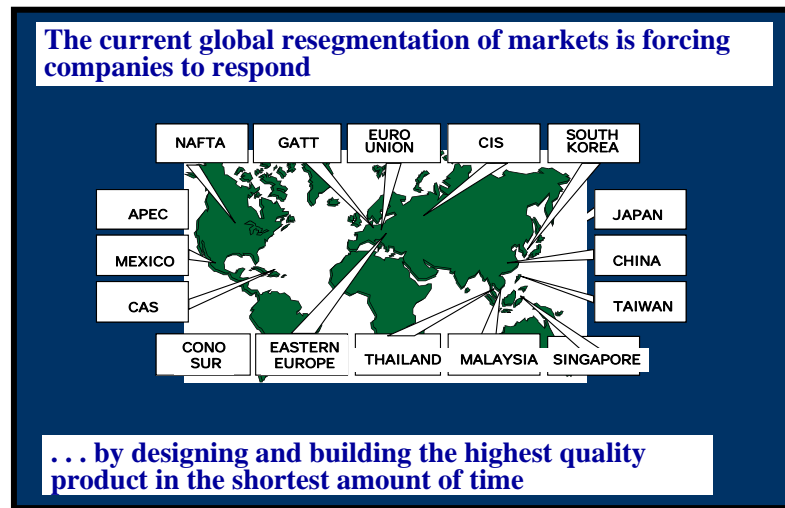
Articles on Current Issues:

Regaining World Market Share Starts with Getting Physical... and Agile

It's no secret that the U.S. lost a significant market share in key industries: wide-bodied aircraft, semi-conductors, automobiles, electronics, and steel. The U.S. manufacturing base has eroded to offshore competitors; we've lost our edge in price, delivery and quality. Our foreign competitors are delivering high quality products with one pass through the factory, while we're consumed in fixing mistakes.

Taking dramatic steps to become agile is necessary to be a manufacturing or distribution contender in the next decade. Organizations must focus on moving information and products quickly through the entire supply chain, distribution, assembly, manufacture, and supply. All physical events must be enacted swiftly, accurately, and effectively. The faster that parts, information and decisions flow through an organization, the faster it can respond to customer needs and orders.

In the meantime, U.S. manufacturing has gone through a lot of pain and expense in its attempts to find the solution, turning to a variety of techniques: MRP, JIT, TQM, cells, FMS, CIM, and BPR. Progress is slow, and we still appear to be losing ground. The bad news is that things are getting tougher. A global resegmentation of markets has emerged.



Over the next ten years, U.S. manufacturers will be faced with stiffer competition in most markets. Clearly the pressure is on to be the best, nothing less. We must concentrate on satisfying the demands of the market, which means designing and building the best quality product in the shortest time possible.

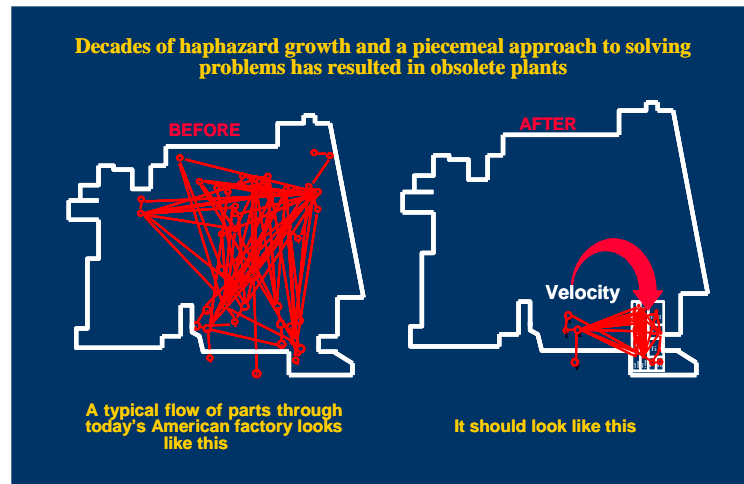
We have trouble doing that today. The way we have organized ourselves over decades works against us. Our organizational structure gets in the way; component plants are located states, sometimes continents, away from assembly; factory flows look like spaghetti with poor communication, physical and functional walls, and colloquial empires fraught with political motive. The sense of a common mission is easily lost, and the result is a total loss of recognition and service to the customer.

How did we get this way?

Over the years, through haphazard growth and a piecemeal approach to problem solving, we created a composite arrangement of people around functions, processes, geography and classes. These arrangements have strangled our efforts to adequately satisfy market needs. With few exceptions, our plants evolved by placing machines and equipment wherever space was available. Our information systems developed as "islands" beginning with accounting, inventory, purchasing, etc., with no overall plan to guide their interaction.



Winners never give up. Mistakes are learned from, techniques are mastered, skills are honed, weaknesses are strengthened, barriers are overcome, and the athlete becomes a relentless competitor. A vision of crossing the finish line in first place drives the athlete until the sweet smell of success is realized.



We structured our people around classes: elite executives, middle management, hourly labor, and them separated them by walls (and movable partitions). Then we tried to manage this with MRP, automation, algorithms, quality circles, cells group technology, TQM, and CIM, all of which received limited results. Its no wonder we have difficulty getting products out the door.

Where do we suffer most- -time and money. We maintain long lead times in order capture and processing, engineering, purchasing, production planning, new product development, manufacturing to name a few. The result is lost sales, higher inventory costs, and excessive overhead.

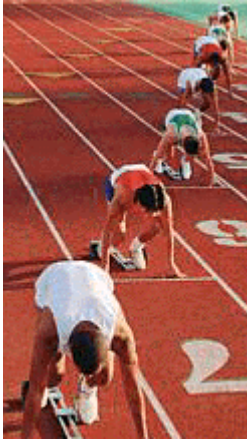
We have to recognize that we erred in taking steps in bits and pieces in our search for a quick solution. All that we got back were bits and pieces of benefit. The key to the future lies in reengineering the entire business-- both physically and logically- - for agility, to meet the demands of the market.

Taking dramatic steps to become agile is necessary to be a manufacturing contender in the next century. Organizations must focus on moving information and products quickly through the entire service chain: distribution, assembly, manufacture, and supply. All physical and logical events within the service chain must be enacted swiftly, accurately, and effectively. The faster parts, information, and decisions flow through an organization, the faster it can respond to customer needs.

Organizations must be market-driven, with more product research and short development and introduction cycles. We must focus on quickly satisfying the service chain, the chain of events from a customer's order inquiry through complete satisfaction of that customer. All physical events must be enacted quickly and accurately. The faster materials, information, and decisions flow through an organization the faster it can respond to the demands of the market. The keys are flow and time.

What does enterprise agility look like?

- 95% of key processes executed right first time
- Value-added time >50% of total time
- Physically and logically structured for velocity
- Flexible cellular manufacturing configuration
- High use of factory automation, artificial intelligence and adaptive control
- Customer/market driven

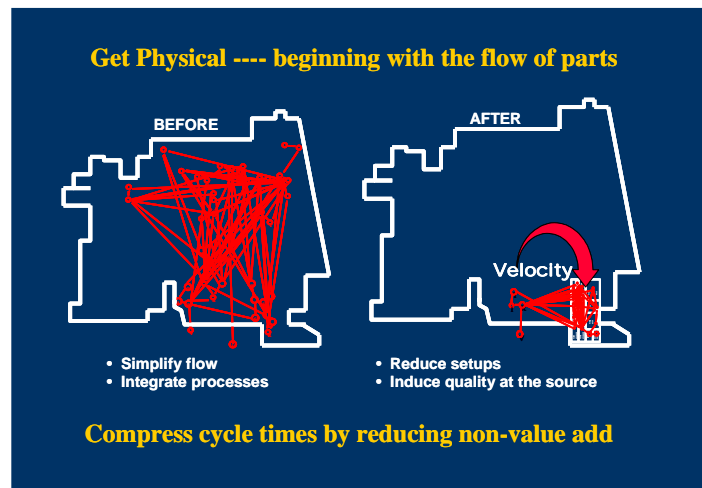


- Focused as strategic market or product business unit
- Three or less vertical management layers per location
- Management style is collaborative; decision making concurrent
- 75-80% of organization physically collocated self-managing teams
- Multi-skilled professional and factory workforce
- New products developed and built with unprecedented speed
- Computers internally/externally linked and integrated

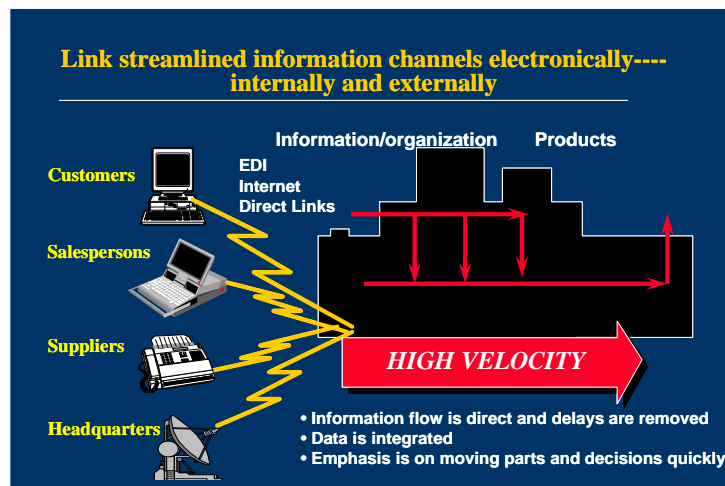
Getting Physical

Start with the physical flow of parts, from the point of supply, through the factory, and shipment. Close the distance between each point in the flow. Within the factory successive operations in the work chain must be physically coupled, removing nonvalue-adding functions and inducing velocity. Parts must move with high velocity through the work chain. Eliminate and simplify natural points of delay.

Why is this important? Competing is taking on tough, new proportions. A global resegmentation of markets is emerging that is changing the world economy. U.S. manufacturers face stiff offshore competition in most markets. Companies failing to respond to the challenge will find themselves left behind eating someone else's dust.



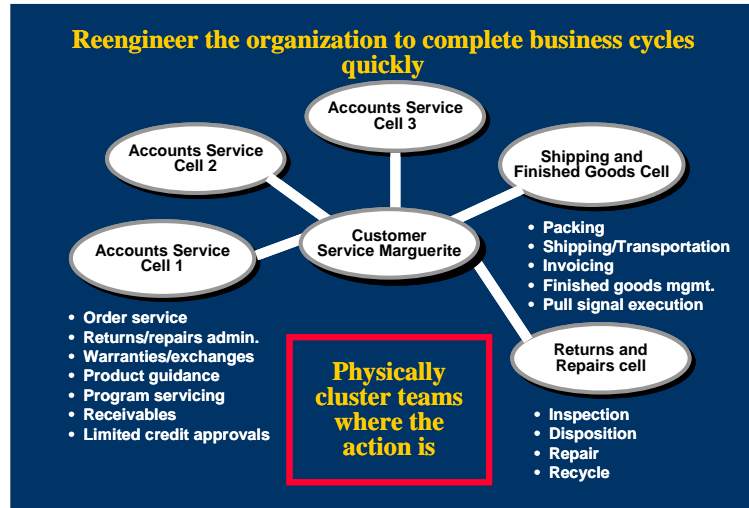
Streamline the information chain and electronically link every point, so that information flow is direct- -without interruptions and delays. Business cycle times must be reduced to the time it actually takes to effectively process information. It makes little sense to move a part through the factory in 2 days, when it takes 2 week to enter an order.





World-class performance requires speed, quality, agility, and endurance. In a highly competitive race for world market domination, there are no silver or bronze medals. You win or you lose. This degree of performance doesn't simply happen. It requires years of commitment, conditioning, and a vision of a gold medal.

Organize for velocity. Reduce the number of vertical and horizontal layers in the organization chart and rearrange them around natural processes. Collocate the functions into physical groups that work fast. Physical walls that stand in the way of good communication have to come down.



What are the benefits?

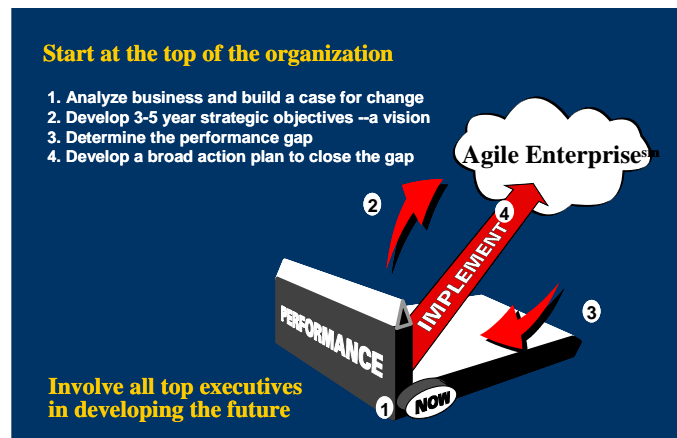
The benefit that a company can receive is a direct result of the extent of change implemented, and the starting point. Dramatic changes produce dramatic results. The following changes are possible:

- 30-35 percent reduction in the cost of sales
- 75-80 percent reduction in delivery time
- 60-80 percent reduction in inventory
- 65-70 percent reduction in cost of quality

...and an unpredictable but substantial increase in market share.

How do we get started?

Develop a vision based on strategic objectives that will make you agile and take you to world-class status in terms of quality, delivery, cost and speed of new product introduction. Cascade this vision throughout the organization by developing 12- month tactical objectives and action plans for everyone that support the vision.





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- Consider the realities and constraints that prevent you from being where you want to be, in terms of physical resources, capacities, human resources, resistance to change, etc. Determine what it will take to overcome them.

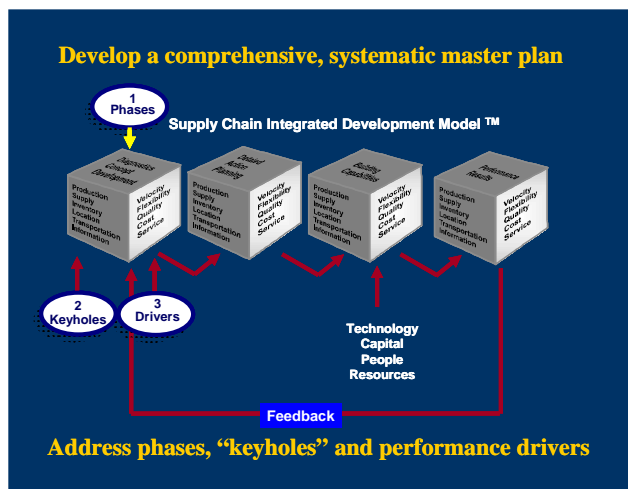
Work together to build a vision and a plan for the future

1. Develop 12 month objectives -- integrate with annual business plan
2. Cascade objectives: get everybody involved in deciding "how"
3. Develop action plans for every employee and measure quarterly
4. Tie the performance and reward system to achieving the action plans

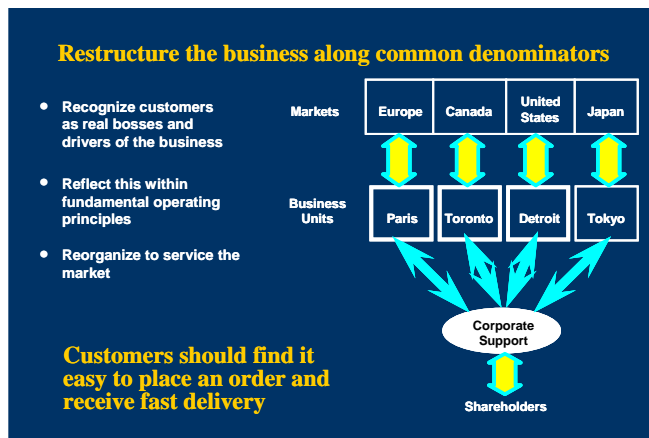
Enterprise Agility

A vision focuses and energizes change. The reward system reinforces it.

- Devise a master plan that fits your organization's capability to progress. Cover all the bases: strategy, processes, structure, staffing/skills, organizational reward systems, and culture.



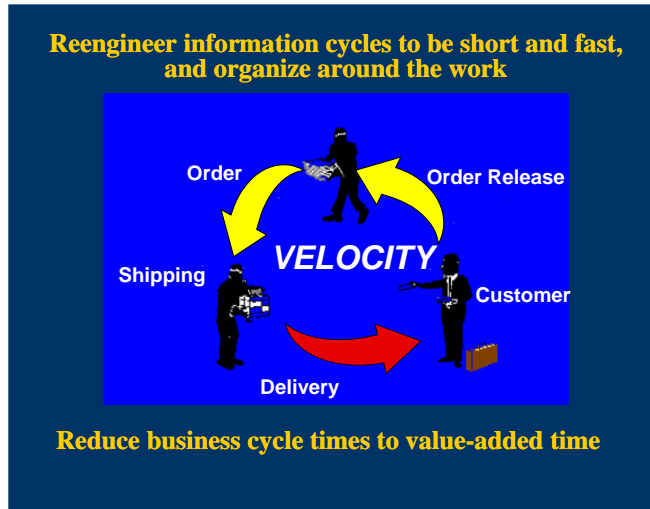
- Reorganize the business to satisfy the service chain-- physically and logically. Streamline the physical operations...integrate their processes...strive for velocity within the entire chain.



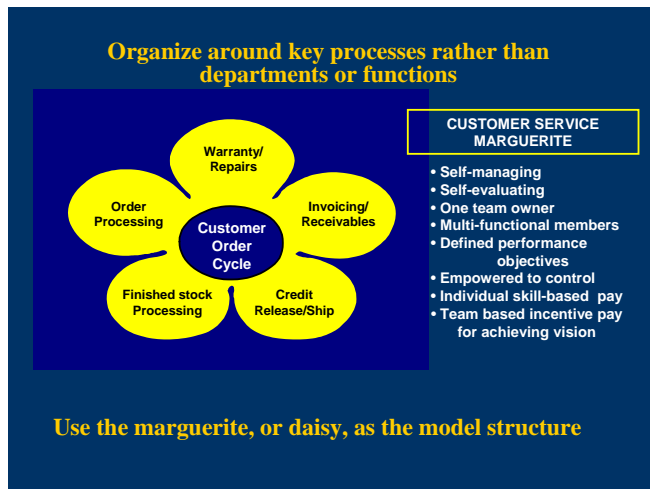


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- Streamline information systems. Link all parts of the service chain electronically for fast communications and processing of transactions.

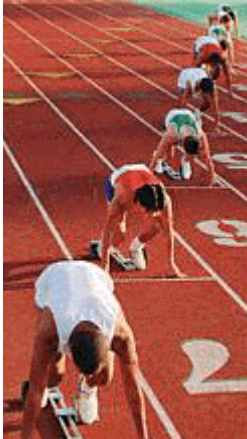


- Smash functional barriers by restructuring each part of the organization to complete business cycles quickly. Design the new organization around self-managed multi-functional teams. Remove organizational obstacles that stand in the way of progress.



Those successfully emerging from this radical transformation will be the winners and leaders: quick, and resourceful enterprises. Becoming agile means competing and leading in the next century. Companies require an overhaul of their infrastructures to be able to introduce and build new products quickly and accurately, but also need an acculturation process fueled by heavy involvement. It takes time to enact changes of major proportions....and it takes careful planning.

It won't be easy, but the alternative is worse.



Author



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Richard G. Ligus is President of Rockford Consulting Group, Ltd., located in Rockford, IL., with over 30 years experience in manufacturing, procurement, transportation and distribution. He specializes in developing and implementing manufacturing, distribution, and supply chain strategies. Rich is an author and a speaker, and has developed seminars with the American Management Association. He is certified by both the Institute of Management Consultants and the National Bureau of Certified Consultants.

Rich has a bachelor of science degree in mechanical engineering from the New Jersey Institute of Technology, and a master of business administration degree from Rutgers University. He is a member of CASA/SME, and has been listed in Jane's Who's Who in Aviation and Aerospace. He has been a speaker at IMTS, USCTI, APFA, NEPMA, MCAA, Hand Tools Institute, CASA/SME, and others. He has appeared several times on WREX-TV, Mid-Morning Magazine.

About Us

Rockford Consulting Group is located in Rockford, IL, a city with a substantial manufacturing and machine tool history. An Illinois corporation, our company specializes in supply chain management, focusing in manufacturing and distribution operations management consulting. As companies search for ways to react to intense competitive pressures, we offer a unique group of integrated, dynamic state-of-the-art services to help clients develop world-class performance capability.

We facilitate the development and execution of supply chain, manufacturing, procurement, logistics, information systems, distribution, and organizational strategies that reduce delivery time, reduce cycle times, reduce costs, streamline information flow, streamline the organization structure, reduce manufacturing time, quicken the decision making process, and build a cohesive management team.

Rockford Consulting Group has a cadre of the best consultants in the world today, providing high quality professionalism through the use of experience and innovation. We subscribe to the Institute of Management Consultants Code of Professional Conduct. We provide high-quality professional consulting services that span both technical and cultural issues. Our clients are treated as our highest priority. Everything that we do is client driven and for the client's ultimate benefit

Through our affiliate offices, we serve North America, Central America, South America, Middle East, Southern Africa, and China, with over 1000 specialists worldwide.



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Consulting Services

We offer the following consulting services and applications as part of our supply chain management consulting portfolio:

- Value stream Mapping
- Cycle-time Reductions
- Supply Chain Inventory Reductions
- Annual Purchase Spend Reductions
- Order-to-Ship Lead Time Reduction
- Operating Cost Reductions
- Substantial Increases in Supply Chain Throughput
- Development of Supply Chain Strategy
- Supply Chain Evaluation
- Supply Chain Modeling/Simulation
- Inventory Analysis/Planning
- Collaborative Planning Forecasting and Replenishment(CPFR)
- Capacity Planning/Simulation
- Supply Logistics Analysis/Simulation
- Identification/Development of Core Products/Processes
- Product Line/Component Sourcing
- Outsource/Reengineer Assessments
- Supplier Partnership Negotiations
- Global Sourcing
- Kan-Ban Supply Logistics Development/Implementation
- Make/Buy Analysis/Planning
- Factory Design/Simulations
- Logistics Analysis/Simulation
- Distribution Channel Design/Simulation
- Process Design/Simulation
- Information Systems Evaluation and Design
- Material Handling Design/Simulation
- Organization Design
- Cellular Manufacturing
- Business Process Reengineering
- Strategic Procurement
- Materials Management
- Project Management



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