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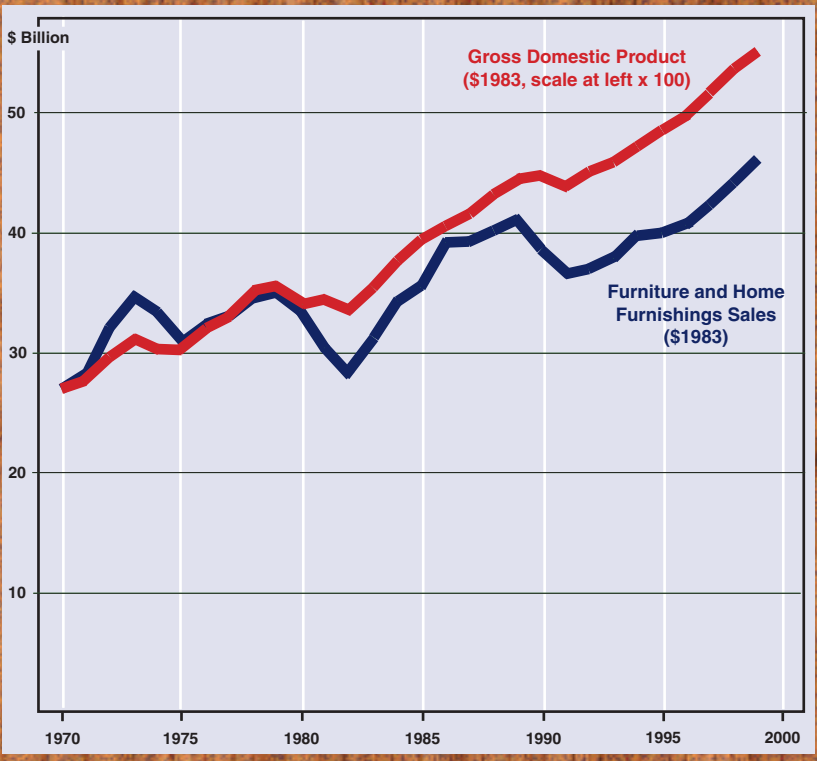
Furniture Manufacturing & Marketing:

Eight strategic issues for the 21st century

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The **Forest and Wildlife Research Center** at Mississippi State University was established by the Mississippi Legislature with the passage of the renewable natural resources act of 1994. The mission of the Center is to conduct research and technical assistance programs relevant to the efficient management and utilization of the forests, wildlife, and fisheries of the state and region, and the protection and enhancement of the natural environment associated with these resources. FWRC scientists conduct this research in laboratories and forests administered by the University and cooperating agencies and industries throughout the country. Research results are made available to potential users through the University's educational program and through Center publications such as this, which are directed as appropriate to forest landowners and managers, manufacturers and users of forest products, leaders of government and industry, the scientific community and the general public. Dr. G. Sam Foster is Director of the Forest and Wildlife Research Center.

The **Institute of Furniture Manufacturing and Management** is an inter-unit, collaborative effort within Mississippi State University – including the College of Forest Resources / Forest and Wildlife Research Center, the College of Business and Industry, the College of Engineering, the School of Architecture, and the MSU Extension Service. The primary mission of the Institute is to enhance the long-term competitiveness and prosperity of the furniture industry in Mississippi and the U.S. by expanding the fundamental and applied knowledge of furniture production and management, by transferring new knowledge to the industry, and by enhancing workforce capabilities. The Institute's web site is at <http://www.ifmm.msstate.edu>

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Furniture Manufacturing & Marketing:

Eight strategic issues for the 21st century

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and

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Forest and Wildlife Research Center

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Eight strategic issues for the 21st century

Table of Contents

1. In “globally contestable” furniture markets, surviving firms will be innovators	2
2. Location will continue to be important in furniture manufacturing	4
3. Furniture companies are growing through expansion, yet small firms may increase in number	7
4. Innovative manufacturers are replacing inventory with information	10
5. Strategic alliances are becoming essential for long-term success in furniture manufacturing and marketing	12
6. Long-term furniture demand in the U.S. should continue to be strong and diversified	14
7. Information technologies have the potential to dramatically change furniture marketing	17
8. A new assessment of competitiveness is needed to develop factory-level, enterprise-level, and policy-level strategies for long-term survival and growth of furniture companies in the U.S.	21
References	22

Furniture Manufacturing & Marketing:

Eight strategic issues for the 21st century



By

Steven H. Bullard and Cynthia D. West

“Take change by the hand, or it will take you by the throat.” Attributed to Winston Churchill, this brief sentence emphasizes the need to understand and embrace change in general. What important “changes” will impact furniture production and marketing in the 21st century? And what can furniture manufacturers and marketers do to “take change by the hand” today and in the future?

Perhaps the most important source of change in furniture and many other industries today is the new ability for suppliers, producers, distributors, and consumers to send and receive “rich” information instantaneously, worldwide, at very low cost. This information includes verbal communication, visual images, personal and highly personalized data, as well as interactive com-

munications. This information is now widely available at low cost in “real time,” and it can be stored, accessed, and used strategically by furniture producers, sellers, and buyers on a continuing basis.

New information technologies have the potential to dramatically change furniture manufacturing and marketing. These technologies are encouraging globalization of markets, for example, and in many areas of the world they may result in important shifts in market “power” to consumers. In this report we emphasize these and other extremely important, strategic issues – trends and issues that will affect the success of furniture manufacturing and marketing firms as they “take change by the hand” in the 21st century.

The eight strategic issues discussed here are related in many ways. We discuss them separately for organizational convenience, but the topics are intentionally arranged – from broad “macro” topics like globalization and the need for innovation, to specific issues and trends in innovative furniture manufacturing and marketing.

1. In “globally contestable” furniture markets, surviving firms will be innovators

“Globalization” has been described as the process of reducing barriers between countries and encouraging closer economic, political, and social interactions (Tabb 1999). In broad terms, globalization implies a diminishing importance of national borders, and strengthened identities that stretch beyond particular regions, states, or countries (Berresford 1997). According to Trout and Rivkin (2000) ... “What used to be national markets with local companies competing for business has become a global market with everyone competing for everyone’s business everywhere.”

Micklethwait and Wooldridge (2000) refer to globalization, as “the most important economic, political, and cultural phenomenon of our time.” They report estimates that while only about one-fifth of world output is open to competition today, within 30 years, as various economies and industries become more open to trade, four-fifths of world economic output will be “globally contestable.”

Historically, many U.S. furniture companies, particularly upholstered furniture producers, have been relatively insulated from international competition. In the past, U.S. firms benefitted from an established position in the domestic market, relatively abundant and high quality raw materials, high consumer acceptance and appeal, and transportation barriers associated

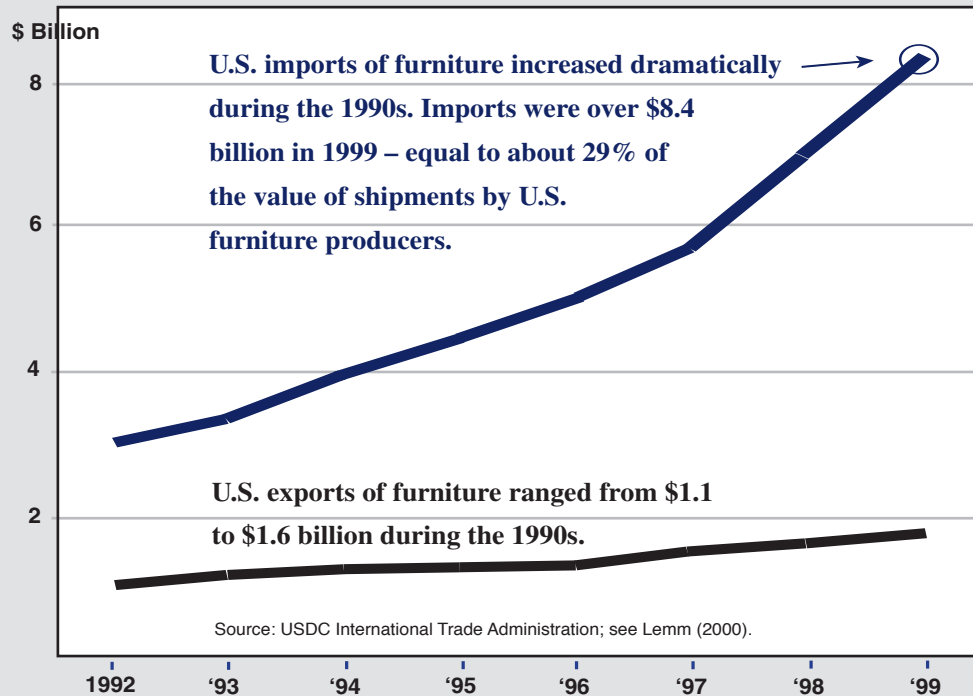
with products of relatively high volume compared to value (Smith and West 1994). Today, however, U.S. furniture markets in general are “globally contestable,” and furniture imports to the U.S. have increased dramatically while furniture exports have been nearly flat (Figure 1). Imports have increased because of advances in information and communications technologies, new shipping technologies, and reduced political barriers to trade. While these changes were occurring during the 1990s, imports also increased because the huge U.S. market for furniture was expanding each year, and because the U.S. dollar was “strong” compared to many other currencies.

New information and communications technologies have also been extremely important in the increased international sourcing of furniture parts and raw materials. In general, these technologies have created opportunities for efficient outsourcing. Globalization “pressures” mean that U.S. furniture firms will need to be continuously innovative in manufacturing and marketing – a statement that is true of raw materials suppliers, final products producers, and furniture distributors and marketers.

In recent years, phrases like “innovate or evaporate” and “evolve or dissolve” have been used to communicate the need for firms to be innovative and flexible in meeting changes in the business environment (Tyson 1997). It has long been recognized, however, that in changing, highly competitive markets, *innovation* is necessary for firms to survive. As stated by Joseph Schumpeter in 1939, for example:

“Like human beings, firms are constantly being born that cannot live. Others may meet what is akin, in the case of man, to death from accident or illness. Still others die a ‘natural’ death, as men die of old age. And the ‘natural’ cause, in the case of firms, is precisely their inability to keep up the

Figure 1. U.S. imports and exports of household furniture, 1992 – 1999.



Why was there a dramatic rise in U.S. furniture imports during the 1990s?

- Information technologies provided better communication between consumers and producers, and between furniture producers and raw materials suppliers; better global communications have also led to more homogeneous consumer preferences.
- Containerized shipping has lowered international transportation costs, and compressed packaging technologies have lowered damage from shipping. Also, consumer acceptance has been high for easily-shipped “knock-down” and “ready to assemble” furniture.
- Today new technologies for furniture manufacturing and marketing are diffused to producers around the world through international shows and conferences.
- Many political barriers to international trade have been removed or reduced.

These changes occurred during a time when ...

- The U.S. market for furniture was huge and expanding. The growth of the U.S. market for furniture and other products has been due to the nation’s strong economy during the 1990s, and also because of demographics. Seventy-six million “baby boomers” reached peak age classes for furniture buying during this decade of economic expansion.
- The dollar was relatively high in value compared to many other currencies, making imported furniture less expensive to U.S. consumers and making U.S. produced furniture more expensive in other countries.

pace in innovation which they themselves had been instrumental in setting in the time of their vigour.”

What Schumpeter said in 1939 is true today. Firms must “keep up the pace in innovation” to survive in the long term, but today there is an important difference – the “pace” is much faster. With instantaneous, global information technologies, new developments in an industry are diffused and implemented much more quickly than at any time in the past. “Keeping up the pace” is a continuous process of innovation and adaptation to new technologies, trends, and conditions.

How can furniture manufacturers and marketers “keep up the pace in innovation?” The following discussion presents some important factors to consider carefully. Some of these strategic issues apply mainly to furniture manufacturers, and some of them apply more directly to furniture distributors and retailers. As with any discussion of this type, some of these issues are long term while others are short term. Successful, innovative firms must have what one writer has called “bifocal vision” – a focus on short- and long-term trends and strategies for success (Harari 1999)

2. Location will continue to be important in furniture manufacturing

With the availability of new information technologies, does it matter where furniture manufacturers are located? Historically in the U.S. it has mattered a great deal – U.S. furniture manufacturers tend to be geographically concentrated. In 1997 the top four states in value of shipments accounted for 75% of total U.S. shipments of *upholstered* household furniture and 50% of *nonupholstered* household furniture (USDC Census Bureau 1999a, 1999b). Upholstered household furniture production is primar-

ily concentrated in two broad geographic areas – the three southern states of NC, MS, and TN, and the Pacific Coast state of CA, while nonupholstered furniture production is highly concentrated in NC, VA, and CA (Figure 2).

In the past, furniture industry location was strongly influenced by “comparative advantages” such as the availability of relatively low cost raw materials, labor, and transportation to major markets. In the 21st century, with the ability of firms to outsource raw materials, labor, and other inputs, some of the locational factors associated with furniture production have become less important. Information technologies today allow furniture manufacturers to outsource an increasing number and share of raw materials and parts, and as discussed previously imports of furniture have increased dramatically in recent years. However, there are several important reasons to believe that locational advantages will persist in furniture production. U.S. furniture manufacturing firms should therefore continue to be relatively clustered geographically.

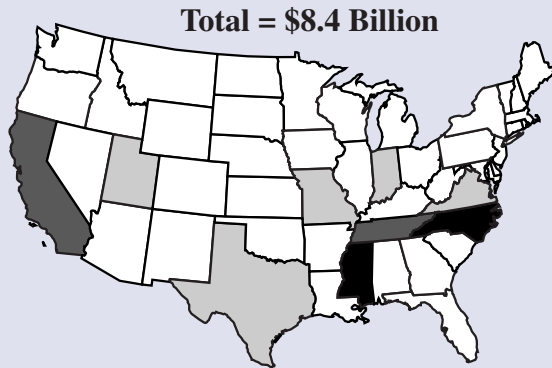
The following discussion is based heavily on the work of Porter (1998), who presents four aspects of local, state, regional, or national “environments” that currently define the context for manufacturing growth, innovation, and productivity: a) Input factors; b) Context for firm strategy and rivalry; c) Demand conditions; and d) Related and supporting industries.

a) Input factors

The basic inputs to manufacturing production and competition include land, labor, capital, raw materials, infrastructure, and knowledge. In the past, “comparative advantages” in production were held by regions with the lowest costs for manufacturing inputs. Today, however, competition in furniture and other industries is more likely to be “productivity” competition,

Figure 2. The nation's top producers of household furniture in 1997.

Upholstered Household Furniture (NAICS 337121¹)

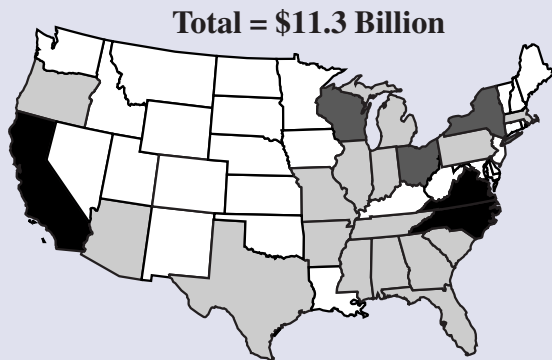


Value of Shipments (Million \$)

1. North Carolina.....2,699
2. Mississippi.....1,909
3. California.....881
4. Tennessee.....770
5. Indiana.....269
6. Missouri.....214
7. Texas.....172
8. Virginia.....171
9. Utah.....113

(Other states were below \$100 million.)
Source: USDC Census Bureau (1999a)

Nonupholstered Household Furniture (NAICS 337122¹)



> \$1 Billion
 \$500 – \$1 Billion
 \$100 – \$500 Million
 < \$100 Million

1. North Carolina.....2,725
2. Virginia.....1,172
3. California.....1,057
4. Ohio.....703
5. New York.....660
6. Wisconsin.....583
7. Tennessee.....375
8. Missouri.....365
9. Indiana.....327
10. Alabama.....274
11. Mississippi.....274
12. Pennsylvania.....234
13. Michigan.....231
14. Arizona.....198
15. Georgia.....196
16. Illinois.....190
17. Arkansas.....181
18. Florida.....174
19. South Carolina.....167
20. Massachusetts.....137
21. Oregon.....120
22. Texas.....107

(Other states were below \$100 million.)
Source: USDC Census Bureau (1999b)

¹ Data from the 1997 Economic Census were summarized and published using the North American Industry Classification System (NAICS). Earlier censuses were published using the Standard Industrial Classification (SIC) system. NAICS code 337121 (upholstered household furniture manufacturing) includes three SIC industries: upholstered furniture (SIC 2512); mattresses and bedspreads, partial (SIC 2515); and furniture stores, partial (SIC 5712). NAICS code 337122 (nonupholstered household furniture manufacturing) includes two SIC industries: wood household furniture (SIC 2511); and furniture stores, partial (SIC 5712). Nonupholstered wood household furniture manufacturing includes establishments engaged in manufacturing wood household furniture and free standing cabinets (except television, radio, and sewing machine cabinets). The furniture may be made on a stock or a custom basis, and may be assembled or unassembled.

arising from the availability and use of *specialized* inputs like highly skilled workers, specific applied technologies of manufacturing, physical and administrative infrastructure, regulations, legal processes, and sources of capital. As stated by Porter (1998):

“Nations and regions do not inherit the most important factors of production for sophisticated competition; they must create them. This in turn depends on the local presence and quality of specialized institutions in education, training, research, data collection and other areas. Such institutions become a potent source of locational advantage.”

This source of locational advantage is very important in furniture manufacturing in the U.S. In NC, MS, VA and other leading furniture producing states, vocational-technical programs, community colleges, and universities are very active in providing education, training, research, and technical assistance specifically targeted to the needs of furniture manufacturers and their suppliers. The presence of pools of specialized inputs, and the institutions that renew them has become an important advantage for furniture industry location in these states. This “public good” builds over time through cumulative investment by many firms, institutions, and government entities, and the external advantages obviate the need for individual companies to bear the costs internally. As stated by Porter (1998):

“While a company may be able to gain access to some of the locational assets through global sourcing, many are hard to access from a distance.”

To foster the long-term upgrading of input factor advantages, firms can: jointly sponsor specialized vocational, technical, college, and university curricula; help sponsor specialized

research centers; and develop courses for workers and managers on regulatory, quality, and managerial issues (Porter 1998).

b) Context for strategy and rivalry

Another aspect of the business environment that creates locational advantages for furniture production is the overall “context” of production and local competition. Local rivalry is an important source of locational advantage in furniture production. Porter (1998) stresses the impact of local rivalry on innovation:

“Rivalry among a group of locally-based competitors heightens pressure to innovate and upgrade ... Local rivals, faced with comparable input costs and access to the home market, are forced to seek other ways to compete.”

Where conditions do not foster investment, intense local rivalry can result in price cutting, but in areas where local conditions support investment, rivalry fosters innovation and upgrading. Many of the larger furniture manufacturers in the U.S. have invested heavily over the last several decades in new facilities, equipment, and manufacturing processes and methods. Although individual firms may find it difficult to “stay ahead” of competitors for very long, intense local competition has resulted in localized furniture industries that are highly efficient using mass production techniques. As discussed in later sections, however, mass production techniques are less effective than “lean” production processes, and significant changes are occurring in factory-level organization and management. Local rivalry is helping to ensure that these changes take place.

c) Demand conditions

In recent years U.S. furniture markets have been strong, mainly due to general economic growth and the aging of 76 million “baby boom-

ers” into peak furniture buying years. The nature of this demand, however, has also been important in furniture industry development. U.S. furniture consumers are generally well informed, and they tend to have relatively high expectations of manufacturers and retailers (Bullard 1989). Because they have tended to foster innovation, demand conditions in the U.S. have been a positive factor in the development of locational advantages in furniture production and distribution. One way for firms to collectively foster this locational advantage is to establish local testing and standards organizations that emphasize product quality.

d) Related and supporting industries

The geographic concentration of furniture manufacturing has encouraged the growth and success of specialized suppliers and related industries. Access to inputs like furniture parts, raw materials, and labor, however, is not the main source of locational advantage in the industry today, since these inputs can be sourced globally. Instead, the main advantages come from the resulting efficiencies, the exchange of knowledge, and the ease of innovation in the “cluster” of related industries. According to Porter (1998):

“The cluster represents a collective asset, creating an environment in which firms can easily and efficiently assemble knowledge, skills, and inputs. This raises productivity and speeds the rate of innovation.”

This “clustering” results in what economists refer to as “agglomeration economies.” The advantages of industry concentration are evident in “high-tech” industries such as the computer-related cluster of firms in California’s “Silicon Valley.” They are also seen in relatively “low-tech” industries, however. For example, the advantages of clustering are a very important reason why the apparel industry has become the second-leading employer in Los Angeles,

behind only the entertainment industry (Anonymous 1998).

In the furniture industry, production clusters typically include specialized suppliers of parts and raw materials, service and equipment providers, infrastructure providers, trade and marketing groups, universities, and others. In the southern U.S., furniture industry clusters are highly developed. Furniture “case goods” are dominant in western NC, eastern TN, and southcentral VA, for example, while recliner manufacturers and other “motion” upholstery producers are highly concentrated in north MS.

In summary, although globalization is affecting the pattern of furniture production worldwide, U.S. furniture producers have developed locational advantages through geographic concentration. While there is potential for significant growth in the outsourcing of parts and raw materials, the locational efficiencies and other advantages of U.S. producers will be a countervailing factor to import dominance in some product categories, especially in upholstered furniture where shipping costs currently tend to be relatively high. These efficiencies don’t just happen, however. Competitive advantages are created through “business environment” factors such as a favorable investment climate, and the involvement of local and state governments and universities. Consideration of furniture industry “clusters” should therefore be an important part of state and local economic policy.

3. Furniture companies are growing through expansion and consolidation, yet small firms may increase in number

Over the last 25 years, many manufacturing firms in the U.S. household furniture industry grew larger through expansion of product lines and facilities, and through mergers and acquisi-

tions (Bihun 2000). The top 25 furniture manufacturing firms produced 46% of the industry's value of shipments in 1998, up from 40% in 1990 (Standard & Poor's 2000).

In some cases, firms have merged or expanded to take advantage of economies of scale; by lowering per unit costs of production, furniture firms are better able to stay profitable on the "narrower margins" that often come with increased competition or that are associated with economic downturns (Bullard 1989). Furniture manufacturers have also increased in size to take advantage of computer-controlled machines and other relatively new and advanced furniture design and production equipment.

Corporate strategies have also involved acquiring product lines in market niches and broadening distribution and marketing channels. In recent years, consolidation has continued in many consumer durables manufacturing industries in the U.S., allowing firms to "leverage brands, manufacturing, and distribution to remain competitive in a marketplace that is more exposed to the proliferation of market niches and product lines, international competition, and pressures from large retailers" (Ellis and Tran 2000).

Larger firm size has been advantageous in the furniture industry in the past and the expansion and consolidation of firms may continue in the future. Today, however, there are also reasons to expect that relatively small firms will grow in number (Figure 3).

Although technological economies of scale are significant in some types of household furniture manufacturing, they are not comparable to capital intensive industries like automobile manufacturing, or pulp and paper production. In manufacturing upholstered household furniture, the possibilities for substitution between capital and labor have been particularly low

Figure 3. Several factors indicate that opportunities will increase for relatively small firms to be successful in furniture manufacturing.

- Technological economies of scale are significant in some types of furniture manufacturing, but in general they are more limited than in capital intensive industries.
- Some of the advantages of vertical and horizontal integration have been and will continue to be reduced or eliminated by new information technologies.
 - Inputs and services are more easily outsourced.
 - Capital is more accessible to relatively small firms.
- Market niches will continue to proliferate, creating opportunities for local firms and for product specialization.

(Bullard and Seldon 1993).

As discussed previously, firm size in the furniture industry has also been influenced by new information technologies. Some of the advantages of vertical and horizontal integration have been diminished or eliminated. Information technologies have made it much easier to outsource parts, raw materials, and other inputs to production, and capital markets are increasingly accessible to smaller firms.

Also related to information technologies, "information utilities" are developing from which manufacturing firms can buy information-related services – much like firms buy electrical and other services from utility companies (Burrows 2000). "Business service providers," for example, are developing to provide low cost access to data and advanced software,

“computer service providers” are developing to provide access to high speed computers without having to buy them, and “applications service providers” are providing access to human resources services, as well as payroll, accounting, and other needs.

Again, a significant aspect of these and other information technologies is their potential impact on firm size. They reduce the need for vertical and horizontal integration, thereby helping ensure the competitiveness of relatively small firms. As stated by Evans and Wurster (2000):

“When everyone can communicate richly with everyone else, the narrow, hard-wired communications channels that used to tie people together become obsolete. And so do all the business structures that created those channels or exploit them for competitive advantage.”

Are large firms needed to compete effectively in “globally contestable” markets? The answer to this question depends, of course, on the industry involved and what one defines as a “large” firm. According to Micklethwait and Wooldridge (2000), firm size in general is not an extremely important factor in success in “globalized” markets. They report, for example, that half of all firms that operate internationally have fewer than 250 employees. This figure includes many industries, of course, and we know of no current studies on optimal firm size for furniture manufacturing competitiveness on a global basis.

Finally, with new information technologies, market niches for furniture will continue to proliferate,² and relatively small, new firms may be more likely to target niche markets for furniture. This is especially true where such markets are geographically concentrated and the furniture has relatively high transportation costs. For

example, while children’s bedroom furniture with nationally recognized sports team logos and colors may be produced and distributed by large firms with a national or international focus, there are great opportunities to produce and market highly specialized products in local markets – recliners, for example, with the “branding” of colors, team logos, etc., from area universities, community colleges, and even secondary schools.

There is a great potential for relatively small firms to manufacture furniture for local consumer preferences, or to take “mass produced” furniture and customize it to meet local consumer preferences. New firms may develop to address these markets, or existing firms with an innovative focus may expand product lines. Since entry costs are relatively low for product customization, however, and since transportation costs can be relatively high, new firms are likely to develop that are more responsive to local market preferences than relatively large, established firms. Again, this conclusion is not new, as pointed out by Schumpeter in 1939:

“Even in the world of giant firms, new ones arise and others fall into the background. Innovations still emerge primarily with the ‘young’ ones, and the ‘old’ ones display as a rule what is euphemistically called conservatism.”

Relatively large, established furniture manufacturing firms that want to take advantage of growing opportunities in niche markets may be most successful by creating new, separate busi-

² This statement may at first seem to disagree with a statement in Figure 1 – that information technologies are resulting in more homogeneous consumer preferences, thereby increasing the potential for furniture imports and exports. The statements are not contradictory, however. Although consumer preferences worldwide may grow more similar for general styles within categories of furniture, within the broad styles of furniture, preferences that are specific to a local area or to specialized groups of consumers are likely to expand and to become widely expected by buyers.

ness entities that are intended to address emerging markets. Independent organizations whose size matches the size of new target markets are more likely to be profitable (Christensen 1997).

4. Innovative manufacturers are replacing inventory with information – Dell Computer Corporation is an example

The following brief description of manufacturing and marketing by Dell Computer Corporation is not intended to fully address the applicability of Dell's "model" to furniture companies. There are too many differences between the products and current manufacturing and marketing processes to easily generalize. Our purpose in presenting this brief discussion is to introduce the Dell approach as a strategic issue in furniture manufacturing and marketing; the processes involved should be considered carefully by innovative executives and managers in the industry.

The general "mass customization" assembly and distribution process used by Dell is outlined in Figure 4 in three basic steps:

- Sell custom-made products online or by telephone;
- Assemble the products using parts that are owned by suppliers until they are used; and
- Ship the products directly to customers.

For Dell, this "model" has two primary advantages: low cost and the ability to deal directly with customers. On the cost side, the company has no staff of sales representatives because the ordering process is automated. The firm spends money on advertising and on customer service and support, but avoids the overhead of a sales staff. Also on the cost side, the company uses parts that are provided and owned by suppliers until they are taken from the suppliers' truck and used by Dell. According to

Schwartz (1999), at the Dell assembly facility in Austin, TX:

"Step inside, and ... the action begins to the left, where long cargo trucks cozy up to rectangular holes in the wall. Each truck is stocked with a specific part, be it memory modules, microprocessors, power supplies, or computer casings. And Dell does not own or take possession of any of these components until the minute they are ready to be slapped into a system; only then are they physically lifted from the truck and brought to the other side of the wall."

As orders for customer-specific computers come in, the information is shared with suppliers in real time over computer networks. This allows Dell's suppliers to know the specific parts requirements of the company on a continuing, "as needed" basis. In the words of Michael Dell, "So it's not, 'Well every two weeks, deliver 5,000 to this warehouse, and we'll put them on the shelf and we'll take them off the shelf.' It's 'Tomorrow morning we need 8,562 units, and deliver them to door number seven by 7:00 a.m.'" (Schwartz 1999). Dell doesn't have to pay for the parts until they use them, and the firm has a "negative cash conversion" of five business days, i.e., customers pay for their computers, on average, about a week before the money goes out to the suppliers of parts for those same computers. In his book *Digital Darwinism*, Schwartz (1999) states that:

"Dell has developed a trait that eventually will be necessary for all surviving species of manufacturers: the ability to replace inventory with information."

The second major advantage of Dell's "model" of manufacturing and marketing is that the firm has a direct relationship with individual customers – a relationship that can be devel-

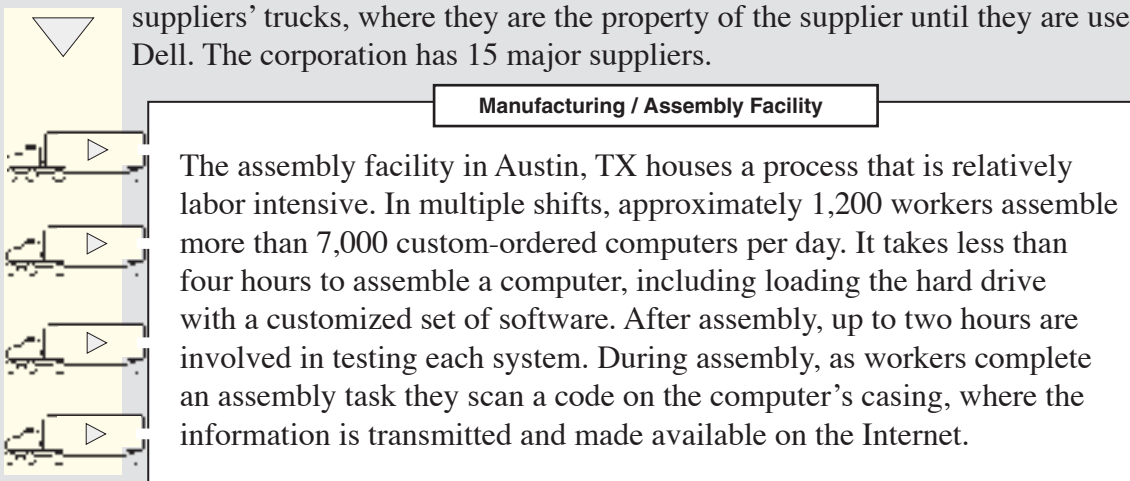
Figure 4. Three basic steps in Dell Computer Corporation's approach to manufacturing and marketing (based on discussion in Schwartz 1999).

1. Sell custom-made products online or by telephone.

Customer orders arrive via the internet or the telephone, and each order is sent to the manufacturing / assembly area within 24 hours. Each computer system ordered is assigned a code number, and a subdirectory is assigned on one of Dell's computers. Via the Internet, customers can "follow" their system as it is assembled.

2. Assemble the products.

Suppliers receive online, specific orders for parts and components. The parts remain on the suppliers' trucks, where they are the property of the supplier until they are used by Dell. The corporation has 15 major suppliers.



3. Ship the products directly to customers.

The direct relationship with customers allows Dell to sell new and upgraded products and services over time.

oped and used later by selling add-on products and services, and new or upgraded computer hardware and software. Another advantage of customer-direct marketing is that, in general, when customers help specify or create a product, they are much more likely to be satisfied with it (Kelly 1998).

Will furniture manufacturing and marketing evolve to be similar to the model exemplified by Dell Computer Corporation? While the Dell "model" may not apply directly, individual companies in the furniture industry should carefully evaluate means of replacing inventory

with information. "Lean" manufacturing processes in general are receiving great attention at present within many U.S. furniture firms. Also, however, U.S. consumers have shown a willingness to pay higher prices for customized bicycles, automobiles, window blinds, shoes, and many other goods and services. Marketing of furniture that is customized by size, design, color, function, and other attributes is widespread and growing rapidly on the Internet today. Following the Dell "model," opportunities may also grow for furniture firms that are efficient marketers and assemblers of other firms' furniture parts and products.

5. Strategic alliances are becoming essential for long-term success in furniture manufacturing and marketing

Many U.S. furniture manufacturers have focused on improving productivity within the firm – reducing overhead, raw materials and management costs, redesigning and upgrading production processes and equipment for maximum efficiency, and automating processes (Seldon and Bullard 1992). As discussed previously, the local rivalry under which most U.S. furniture manufacturers have operated has forced them to be relatively efficient producers.

With global competition, however, being a relatively efficient producer may not ensure the long-term success of a firm. This is particularly true in manufacturing ready-to-assemble furniture, “knock down” furniture, and other types of furniture that can become “commoditized” because of low shipping costs for raw materials and final products, and/or because of a low degree of product differentiation. As stated by Rackham et al. (1996) in a discussion of manufacturing in general:

“... for all their accomplishments in improving internal efficiency, many organizations have come to realize that it is not enough. For one thing, the ruthless search for internal efficiency has left many organizations at ‘parity’ with their competitors who have gone through the same struggle. For another, years of productivity improvement inside the average large corporation has meant that the internal productivity well is beginning to run dry.”

Widely applied practices like “benchmarking”³ also tend to increase the level of “parity” among manufacturing and marketing competitors. In many industries today, strategic “alliances,” “partnerships,” “networks,” and

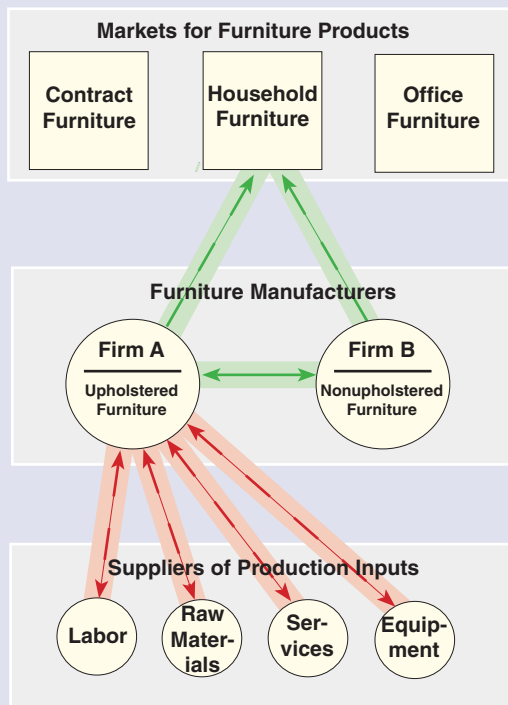
“coalitions” are becoming central to success in fast-changing, globally contestable markets (Doz and Hamel 1998). Strategic alliances can take many forms, and in the furniture industry, basic examples include alliances with suppliers and alliances with furniture producers in other product categories (Figure 5). Alliances may also be developed between furniture manufacturers and retailers. In the apparel industry, for example, “lean retailing” is now widespread. Major retailers effectively replace inventory with information by sharing “real time” purchasing and replenishment needs with suppliers (Abernathy et al. 1999).

Doz and Hamel (1998) present several reasons for strategic partnering in today’s economy. Partnering may be necessary to enter a market. In some nations, for example, partner firms within the country are necessary to gain market access. Strategic alliances between firms may also be needed to ensure that suppliers and producers attain mutual goals, to reduce the uncertainty of entering new product markets or geographic areas, to broaden demand and consumer loyalty, and to access skills or knowledge that may be concentrated in other geographic locations. Examples of the latter reason in furniture manufacturing include gaining access to furniture designers, testing, or materials that may be unavailable locally.

Strategic alliances, partnerships, and coalitions are an increasingly important source of competitive advantage. They are not, in general, necessary to create economies of scale, but they can be used to reduce some of the uncertainties of production and marketing, and

³ “Benchmarking” is a general process where a company studies, measures, and compares to their own performance, key operations of “foremost practices” companies – firms that perform at the lowest cost or the highest level of value to customers (Boxwell 1994). Benchmarking can be used in developing a firm’s overall competitive strategic analysis and tactics. Benchmarking helps ensure that best practices are applied in manufacturing and marketing within a specific firm.

Figure 5. Examples of potential strategic alliance in furniture manufacturing and marketing.



Example alliance between furniture manufacturers:

A manufacturer of upholstered furniture (Firm A) and a producer of nonupholstered furniture (Firm B) may partner to design, produce, and market household living room products that are coordinated in style, color, etc. – thereby creating complementary products, broadening consumer demand, and developing consumer “lock in” by marketing related furniture pieces (Shapiro and Varian 1999). Similar alliances are possible in markets for contract furniture, office furniture, and other broad furniture categories.

Example alliances between a manufacturer and input suppliers:

There is an increasing awareness among manufacturers that supplier relations are just as important as customer relations (Brandenburger and Nalebuff 1998).

Individual manufacturing firms may develop strategic alliances with labor suppliers⁴, raw materials suppliers, service providers, etc. These alliances go beyond transactional, short-term business to mutually profitable, long-lasting relationships. Examples described by Rackham et al. (1996) include:

- Manufacturers and suppliers who have highly integrated processes and operations (beyond traditional organizational boundaries).*
- Manufacturers who consider their suppliers’ profitability, and suppliers who will, for example, refer business to competitors if necessary to ensure the partnering manufacturer’s needs are best met.*
- Suppliers whose sales representatives share information and accounting data with manufacturers, and manufacturers who, in turn, give suppliers access to internal financial data.*
- Suppliers and manufacturers who create joint teams that represent only the “partnership,” and that continually search for potential gains in productivity between the two organizations.*

Strategic alliances between suppliers and manufacturers are an example of “supply chain management.” A “supply chain” is a network of relationships that firms maintain with trading partners to source, manufacture, and deliver products, and “supply chain management” is the coordination of materials, information, and financial flows between and among participating organizations (Kalakota and Robinson 1999).

⁴ The concept of building “partnerships” or “strategic alliances” with labor applies directly with unionized or otherwise organized employees. The general concept of strategically building strong relationships applies to non-unionized labor as well. A specific example that illustrates an emphasis on employee relationships was given by Brandenburger and Nalebuff (1998): “If a customer wants something special, such as rush delivery, but isn’t willing to pay enough to compensate workers for a lost weekend with their families, then satisfying this order would not create value – in fact it would destroy value. The customer isn’t always right. Employees have rights too.”

they can provide access to skills, materials, and markets that would otherwise be unavailable to individual firms.

6. Long-term furniture demand in the U.S. should continue to be strong and diversified

Demand for household furniture in the U.S. was generally strong during the 1980s and 1990s, as shown by the overall level of sales of furniture and home furnishings stores in constant dollar terms (Figure 6). Important, demand-related points are evident by comparing U.S. Gross Domestic Product (GDP) and furniture store sales, and by considering population age classes and other trends.

a) Economic activity and demand

There is a very strong relationship between GDP and furniture demand. GDP is a broad measure of general economic activity, which directly influences the demand for furniture and most other goods and services. Figure 6 clearly illustrates the strong, positive impact of general economic activity on furniture sales over a 30-year period.

Figure 6 also illustrates sharp drops in furniture and home furnishings sales during three economic recessions, or periods when U.S. GDP decreased – 1975, 1982, and 1991. The sales of furniture and home furnishings stores dropped by a much greater percentage than GDP in each of these economic downturns:

Year	Decrease in GDP*	Decrease in Furniture Sales*
1975	2.60% »	11.96%**
1982	1.96% »	7.17%
1991	1.01% »	6.04%

*Based on 1983 dollars..

**Calculated based on the decrease from 1973 to 1975.

In general, furniture demand decreases more sharply than the overall rate of economic activity because the purchase of consumer durables like furniture can in most cases be postponed. Figure 6 also shows, however, that furniture and home furnishings sales increase immediately when GDP increases.

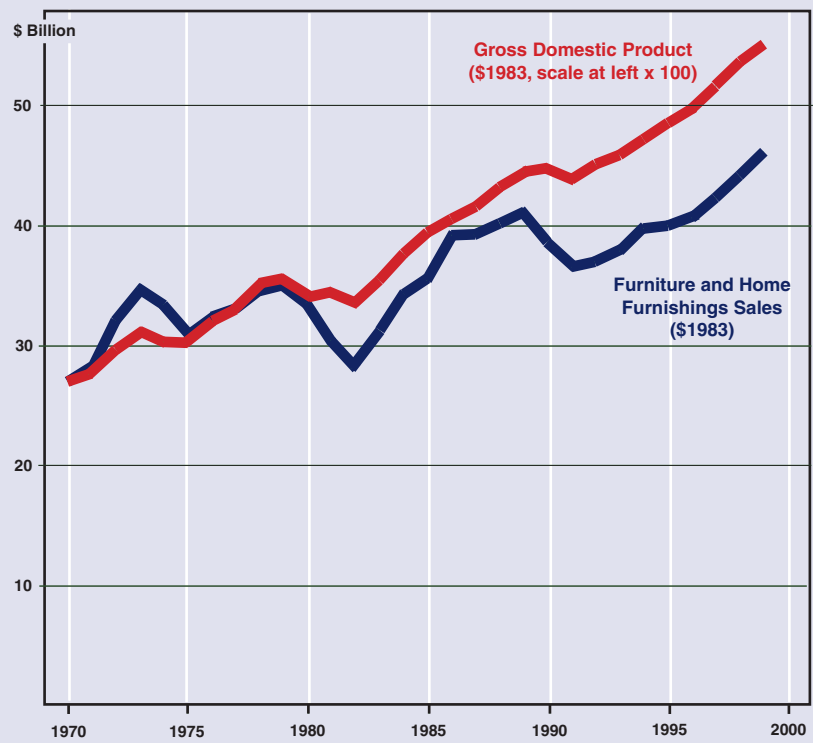
Another point illustrated in Figure 6 is that since the mid-1980s, U.S. GDP and furniture demand have both grown dramatically. In constant dollar terms, sales of U.S. furniture and home furnishings stores were 28% higher in 1999 than they were in 1991, and 65% higher than in 1982. Based on demographics, particularly the aging of U.S. “baby boomers,” strong growth in furniture demand during the 1990s was predicted in the 1980s (see Epperson 1986, or Bullard 1989, for example). Seventy-six million “baby boomers,” born between 1946 and 1964, reached peak ages for furniture buying during the late 1980s and the 1990s.

CA, FL, TX, and NY dominated other states in total furniture store sales in 1997, as they have in past censuses of retail trade (see Bullard 1990). The rate of growth in furniture store sales in the U.S. has been well-distributed geographically, however. From 1992 to 1997, for example, furniture store sales increased in nominal terms by the highest percentages in NE (86%), AZ (71%), UT (70%), CO (68%), OH (53%), and NC (52%) (USDC Census Bureau 1994; USDC Census Bureau 2000a).

b) Future demand

What about U.S. furniture demand in the first part of the 21st century? Well-known economic forecaster Harry Dent contends that the “spending wave” of the millions of U.S. consumers born between 1946 and 1964 created the economic expansion of the 1990s, and that their spending will continue to dominate U.S. markets in the first part of the 21st century. Based on USDL Consumer Expenditure Sur-

Figure 6. U.S. Gross Domestic Product and sales of furniture and home furnishings stores, in real terms, 1970–1999.



Sources: Data for GDP were obtained from the USDC Bureau of Economic Analysis Web site <http://www.bea.doc.gov/bea/dn/gdplev.htm>; data on sales for furniture and home furnishings stores were obtained from the Web site <http://www.economagic.com/em-cgi/data.exe/cenret/rt14>, based on the USDA Census of Retail Trade. Nominal dollar values were converted to \$1983 using annual values for the consumer price index reported at the Web site for the Federal Reserve Bank of Minneapolis <http://woodrow.mpls.frb.fed.us/economy/calc/hist1913.html>.

veys, Dent (1998) states:

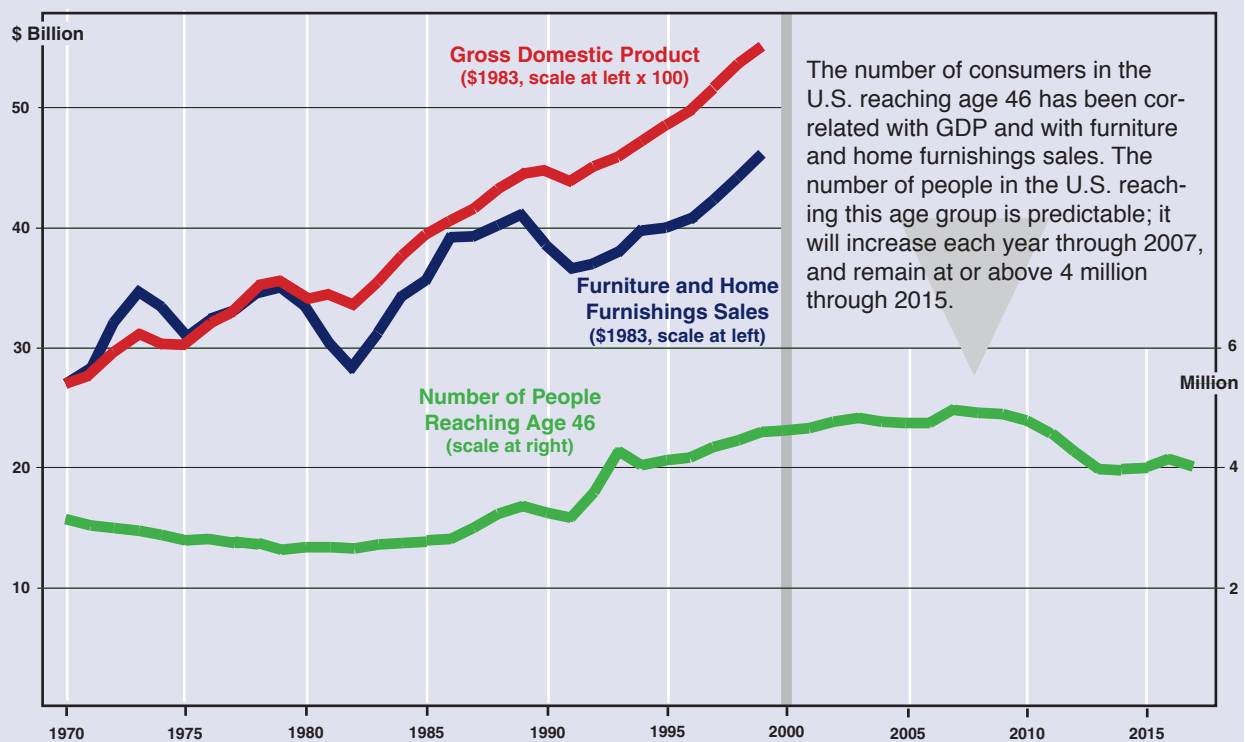
The average person ... buys a starter home around age 33 to 34, ... , and purchases all of the furnishings to go with it. By age 43, we trade up to the largest home we'll own, and fully furnish it by age 46.5, when most of our children leave the nest at age 19, making 46.5 the peak spending age today."

U.S. demographics will continue to have a strong, positive effect on the nation's GDP and furniture demand in the first part of the 21st century. Based on birth rates and immigration rates, the number of U.S. consumers who reach age 46, for example, will continue to stay at or above the four million level each year until about the year 2015 (Figure 7). *Ceteris paribus*, during this time, consumer spending should be relatively high. Furniture demand specifically

will also be positively affected by increased home repair and remodeling, and the trend toward larger single-family homes (Figure 8).

Furniture demand should also be positively influenced by the millions of "echo boomers," children of "baby boomer" parents, who will reach 25-35 years of age between 2000 and 2015. Since millions of relatively affluent "baby boomers" will be purchasing furniture during a time when millions of "echo boomers" will be forming new households, furniture demand may be increasingly diverse in the U.S. This trend is evident in the increased disparity in personal and household income levels in important markets like California (Daly and Royer 2000), as well as at a national level (Nakamura 2000). The age and income structure of the U.S. population indicates demand growth for relatively modest-priced furniture, as well as furniture designed and marketed to more affluent

Figure 7. U.S. Gross Domestic Product and sales of furniture and home furnishings stores, in real terms, 1970–1999, and the number of people in the U.S. reaching age 46 each year from 1970 to 2017.



Data for GDP and furniture and home furnishings sales were obtained as described in Figure 6. The number of people reaching age 46 each year was calculated from U.S. birth rates and immigration rates by age for 1924–1971, moved forward 46 years to 1970–2017.

consumers.

Growth in demand can also be expected for:

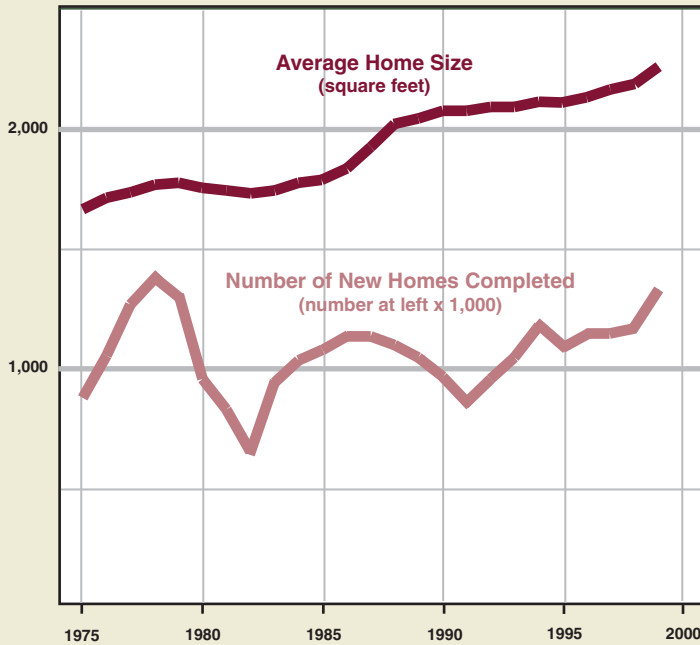
- **Furniture for home offices.** Currently, an estimated 43.5 million U.S. households have home offices, while 51.5 million individuals work at home at least part of the time (Standard & Poor’s 2000). Information technologies are enabling more work to be accomplished at home, and increasing numbers of U.S. workers are retiring early but maintaining at least part time work from home offices (Ruhling 2000; Yang 2000).

- **Customized furniture.** Consumers may increasingly expect to purchase furniture that is

customer-specific in its size and design. Niche markets for furniture are also developing that are specific to relatively small geographic areas, and that cater to consumers with very specific interests. Some manufacturers are addressing this need today by producing customizable furniture. Examples include: wood furniture that is unstained, allowing consumers to apply the specific finish type, color, and texture they desire; and occasional tables with etched glass insignia or logos that can be changed for specific “micro” markets.

- **Specialized furniture.** Dual-purpose sleep furniture, lift chairs, video game chairs, and many other furniture products today are highly specialized by function. In the future, specialized furniture products will likely grow in

Figure 8. Number and size of new homes completed in the U.S., 1975–1999.



The average size of new single-family homes has increased significantly in the U.S. – from 1,645 sq. ft. in 1975 to 2,250 sq. ft. in 1999. This trend has closely followed increases in disposable income.

The number of new homes completed in the U.S. has been a leading indicator of economic recession. The number dropped in advance of the GDP decreases of the mid 1970s, the early 1980s, and the early 1990s.

Source: National Association of Home Builders' Web site <http://www.nahb.com/facts/forecast/sf.html>

number; many will incorporate health functions and other concerns of an aging population. Beds, chairs, and other furniture pieces, for example, may increasingly provide “high tech” back support, or include electronic devices to monitor, record, and transmit heart rate, sleep time, and other health-related information. Also, with growth in larger homes and with increased numbers of relatively affluent consumers, demand is increasing for specialized cabinets and other furniture designed for larger bathrooms, walk-in closets, entertainment rooms, and kitchens.

- **“Green” furniture.** General consumer awareness of the environmental “friendliness” of products will continue to increase, and manufacturers and marketers of furniture have been and are responding to this trend. Manufacturers, for example, have been required by furniture retailing giant IKEA to phase out the use of solid wood from “ancient” forests unless the wood is certified by the Forest Stewardship Council (Anonymous 1999). Manufacturers and marketers can be proactive in addressing this

trend by incorporating more recycled raw materials and by developing more “renewable” furniture products, e.g., products with easily changed cushions, covers, drawer faces, etc.

Of course these are only some of the trends and issues affecting the expanding, increasingly diverse U.S. demand for furniture products. Innovative manufacturers and marketers should carefully consider broad changes in consumer income, life stage, preferences, and expectations in developing strategies for a competitive future.

7. Information technologies have the potential to dramatically change furniture marketing

On-line sales of furniture and home furnishings are expected to grow dramatically – from \$518 million in 1999 to an estimated \$6.4 billion in 2003 (Standard & Poor’s 2000). Potential growth in on-line sales, however, is only one aspect of the significance of new informa-

tion technologies on furniture marketing. Internet and other information-related technologies can have fundamental impacts on furniture marketing by: a) providing a means for customer-direct sales; b) providing new opportunities for manufacturers and marketers to develop relationships with customers; and by c) shifting market “power” to consumers.

a) Customer-direct e-commerce

To traditional “bricks and mortar” retailers, on-line retailing is a “disruptive” technology, with the potential to fundamentally change business practices and transactions (Christensen 1997). Today there are many Web sites offering furniture products for sale, but Internet-based customer-direct sales, have not been embraced by major manufacturers of household furniture in the U.S. In 1999, for example, Furniture Brands International announced that it would not allow direct sales to consumers via Web sites. Also in 1999, La-Z-Boy and Ethan Allen announced that they would begin selling on-line in 2000, but Internet-only retailers would not be allowed to sell their products. Internet sales would occur only through arrangements with local dealers who receive a percentage of sales that occur in their regions and compensation for filling on-line orders (Lemm 2000). Smaller firms in the household furniture industry, meanwhile, view the Internet as providing an opportunity for greater visibility at low cost.

In the near-term, customer-direct e-commerce will likely grow in addressing consumer demand for relatively specialized products. Niche markets are expected to grow in importance, and opportunities may therefore increase for relatively small firms to prosper through Web-based sales.

In the long-run, the “disruptive” technology of e-commerce may force relatively small furniture retailers to expand or to go out of business.⁵ Given the unwillingness of major U.S. house-

hold furniture manufacturers to sell directly to the public, and because of transportation costs and consumers’ general propensity to see and touch before major furniture purchasing decisions are made, consumers will continue to buy many furniture products from retailers. Consumers are, however, able to easily comparison shop for products and prices on-line; a 1999 study, for example, reported that 15% of consumers who purchased furniture or major appliances had researched on-line before eventually purchasing off-line (Standard & Poor’s 2000). With easily available information on-line, U.S. buyers will increasingly expect broad product selections at relatively low prices. Large retailers who are cost-efficient will have advantages over small furniture retail stores, as well as over large-scale but relatively high cost furniture stores.⁶ Firms that are vertically integrated with company-owned franchise stores and strong brand identity are well positioned to add e-commerce as a distribution channel.

Customer-direct e-commerce is an extremely important development in the market for *contract* furniture in the U.S. Buyers of contract furniture can find product, price, and production and delivery information on-line, and anecdotal evidence suggests that an increasing number of orders are being placed and filled on-line. In the contract furniture industry, the potential for customer-direct sales through e-commerce has been what Christensen (1997) refers to as a “sustaining” or value-enhancing technology rather than a “disruptive” technology.

⁵ In “bricks and mortar” furniture retailing there has already been a trend toward larger establishments. From 1992 to 1997, furniture store sales increased in almost every U.S. state, but the number of establishments selling furniture decreased in every state except one – from a total of 32,478 establishments in 1992 (USDC Census Bureau 1994) to 29,461 in 1997 (USDC Census Bureau 2000a). Over one-fourth of U.S. furniture retailing establishments had sales in excess of \$1 million in 1997 (USDC Census Bureau 2000b).

b) Developing relationships with customers

Information technologies and networked computer systems allow manufacturing and marketing firms to improve internal business processes by helping coordinate demand, design, production, and distribution, and by helping to manage inventory, reduce administrative and managerial costs, and improve customer service. New information technologies also, however, allow manufacturing and marketing firms to develop relationships directly with customers. In the past, when a customer bought a furniture product from a “bricks and mortar” retailer, the retailer had the opportunity to develop a relationship with the customer; the manufacturer may have had an opportunity through product registration or warranty cards.

Today, however, both retailers and manufacturers have opportunities to develop relationships directly with individual customers. An example of the successful use of customer-specific information comes from marketing a specific type of home furnishing – clocks. The nation’s number one vendor of clocks is American Express, a firm with a comprehensive database on the spending patterns of higher-income

families (Evans and Wurster 1999).

Another example of developing and using customer-direct relationships is the use of “loyalty” programs – explicit inducements to customers to buy largely or exclusively from a specific vendor (Shapiro and Varian 1999). Perhaps the most well-known examples of customer loyalty programs are the frequent flyer systems used by airlines, and the rebate-building credit cards sponsored by automobile manufacturers, gasoline producers, and others. As information technology costs have dropped, opportunities to collect, store, and access customer-specific information on buying patterns have increased greatly.

Shapiro and Varian (1999) predict that loyalty programs will proliferate in many industries. Producers and retailers can keep track of historical sales of different products by individual consumers, and this information can be used to target promotional efforts and to offer discounts and rebates that are cumulative for individual customers.⁷ In addition to airlines, gasoline producers, and automobile manufacturers, grocery stores, package delivery services, and many other vendors are using loyalty programs today.

With new information technologies, including “smart cards” (Schwartz 1999) and the ability to track on-line purchases, producers can build consumer loyalty in many ways at low cost. A significant development is that this technology for building relationships with customers is available to smaller and smaller firms.

^{6.} Heilig-Meyers, the nation’s largest home furnishings retailer filed for Chapter 11 bankruptcy protection in August 2000. This announcement occurred during a time when demand for furniture and home furnishings was strong (as shown in Figure 6), with favorable interest rates, high consumer confidence levels, low unemployment, and strong housing activity (Standard & Poor’s 2000). The firm’s demise clearly shows the importance of corporate strategy. Heilig-Meyers’ strategy had been to open retail stores in small towns and rural markets at least 25 miles from large cities, drawing customers by offering competitive credit terms (Sur 2000). This strategy may have been undermined by the “disruptive” technologies being faced by “bricks and mortar” furniture retailers in general. Specifically, due to changing information technologies, today consumer credit is readily available from many sources. Also, household furniture buyers increasingly search for low-cost distributors of brand name furniture products on-line as well as physically. Strategies emphasizing regional distribution centers with outsourced credit services and collection operations may be more likely to succeed than strategies concentrating on stores that are physically located in small towns and that have “in house” credit operations.

^{7.} Customer loyalty or “lock-in” programs can take many forms. Trading stamps and coupons, for example, have been used for many years to build customer loyalty. Discounts to frequent and/or large scale buyers may include a low price for a minimum order size, discounts or extra merchandise for customers who order more than they did last year, and cumulative volume discounts.

c) Shifting market “power” to consumers

An extremely important impact of the Internet and other new information technologies is that consumers will have increasing “power” in the market for nearly all goods and services. The “power” comes from two sources: consumers’ now have the ability to compare products and prices easily; and consumers can easily communicate, individually and in the aggregate, information about their needs and their satisfaction with the products and services of individual manufacturers and retailers.

“Power” through product and price comparisons. As reported previously, in 1999 an estimated 15% of household furniture and home appliance buyers in the U.S. found information on-line before purchasing off-line. This percentage should increase each year, as consumer access to and use of the Internet increases. In automobile purchasing decisions, for example, the rate of growth of Internet information use has been extremely fast. Only 2.7% of the people who bought a new vehicle in the first quarter of 1999 purchased through an on-line buying service, but the percentage of new vehicle shoppers who used the Internet to help them shop increased from 25% in 1998 to 40% in the first quarter of 1999 (USDC Economics and Statistics Administration 2000).

An important result of better informed consumers is greater emphasis on product selection, quality, and price. Traditional furniture marketing that has emphasized promotional products and “sales” may lose much of its effectiveness. Sale pricing, for example, is not an effective way to segment the market and attract price-sensitive consumers if everyone can easily search for the lowest price (Shapiro and Varian 1999). Manufacturers and retailers may find increasing value, however, in building consumer equity by enhancing brand awareness, through high quality, efficient customer services, and as previ-

ously discussed, through “loyalty” and other programs to build consumer relationships through cumulative purchases.

“Power” arising from consumer-to-consumer communications. Consumers will gain great “power” by being able to communicate their wants and needs in the aggregate, and by being able to share information easily on their satisfaction with the quality of goods and services. With low-cost on-line communication, consumers can aggregate their demand for specific goods and services; by grouping their purchasing decisions, consumers have more opportunities to negotiate lower prices with sellers, thereby benefitting from pecuniary economies of scale. This form of “power” can also create more “demand pull” for specific goods and services, including the specific furniture styles produced, the raw materials used, and other decisions made by manufacturers and retailers.

Another Internet-related development with broad implications for consumer “power” is the development and use of consumer-affiliated “navigator” Web sites. In addition to allowing consumers to find information on purchasing alternatives from many suppliers, navigator sites without seller affiliation can explain why certain features of a product are not worth the extra cost, and they can allow millions of consumers to share unflattering information on a product’s performance or a firm’s customer services (Evans and Wurster 1999).

As with the earlier discussion of product and price comparisons, almost costless mass communication among consumers further enhances the need for furniture firms to build brand identity and consumer equity. It also creates opportunities to build stronger relationships with individual customers as well as with groups of potential customers.

8. A new assessment of competitiveness is needed to develop factory-level, enterprise-level, and policy-level strategies for long-term survival and growth of furniture companies in the U.S.

We began this report with a quote attributed to Winston Churchill – *“Take change by the hand or it will take you by the throat.”* Recent changes in the furniture industry in the U.S. include the closing of many production facilities, particularly in case goods and other non-upholstered sectors of the industry. Upholstered producers have also faced significant challenges recently, however, including increased imports and the financial demise of major furniture retailers.

Our goal in this report has been to briefly discuss some of the significant issues and challenges in furniture manufacturing and marketing in the 21st century. To fully understand how firms can “take change by the hand” in this era of global competition, however, a new assessment is needed of the global competitive position of this industry.

In 1985 a comprehensive, global assessment of the automobile industry was conducted through the Center for Technology, Policy and Industrial Development at the Massachusetts Institute of Technology (see Womack *et al.* 1990). This work helped shape the future of the automobile industry, particularly in the U.S., where transition from mass production techniques to “lean” techniques has been necessary to meet the challenges of foreign competitors in price and quality. Previous reports on furniture industry competitiveness, including the USDC International Trade Administration (1985), Bullard (1989), Geiger *et al.* (1990), Smith and West (1990), and Schuler *et al.* (2001), have been much more limited in scope. These studies have addressed specific aspects of competitiveness in the furniture industry, but

have not been comprehensive in their assessment of manufacturing and marketing.

A new, comprehensive assessment is needed that covers both manufacturing and marketing aspects of the furniture industry, given the many changes that have occurred in technologies fostering globalization of production and consumption. In manufacturing, for example, the assessment should include changes in consumer needs and how these needs are evaluated, as well as product design, supply chain management, operation of individual factories, and packaging and transportation. In marketing, all of the factors involved with meeting consumer demand, including specific distribution channels should be assessed so that U.S. firms can be well positioned and “proactive” in addressing both current and future changes.

For long-term survival and growth of U.S. furniture producers, strategies must be developed to enhance competitiveness at the factory level, at the enterprise level, and at the policy level. At the factory level, for example, producers should carefully assess ways to replace inventory with information, including evaluating and implementing “lean” production techniques where they are most applicable within product lines. At the enterprise level, firms must assess the need for strategic alliances with retailers as well as with suppliers to enhance competitive positions. At the policy level, meanwhile, strategies are needed for economic development, and for research, education and technology transfer efforts that promote long-term competitiveness. In the present report, we have highlighted a few significant issues in furniture manufacturing and marketing at each of these levels. Only through a comprehensive assessment, however, can strategies be developed that will ensure long-term survival and growth in this important industry.

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