ToyWorld, Inc.: Information Technology Planning

A profitable 1986 Christmas season marked the end of the chronic stockout problems that had plagued ToyWorld's 134-store network of "toy supermarkets." The chain, which had been acquired by King National in early 1981, had evolved from a closely held group of children's furniture stores to a finely tuned "retail machine."

ToyWorld president George Waterhouse felt that the company's relatively recent adoption of computer technology enabled it to move quickly to specific targets. "Merchandising is the heart and soul of a retail company, demanding accurate product selection and rapid and decisive response to the market. For these activities to exist, ToyWorld needs information systems," he asserted. Waterhouse pointed to new systems for automated product replenishment and dynamic post receipt allocation of inventory to stores. An electronic mail system linked the company's five distribution centers to headquarters in Randolph, Massachusetts, about 20 miles south of Boston. In ToyWorld's newly created Marketing Services Department, computer-aided design technology was used for store layouts and merchandise presentation diagrams, and data for competitive analysis were being retrieved from an advanced database management system installed on a powerful microcomputer.

Bill Anderson, ToyWorld's vice president of management information systems (MIS), felt that the firm's large-scale, high-volume computer systems, which had been carefully aligned to strategic goals, were ready to make an information technology-based preemptive strike. A study with AT&T had identified, among other communications-based opportunities, "nonstore shopping" (consumer access via catalog, telephone, etc.). A proponent of nonstore shopping, Anderson was ready to provide leadership.

The Era of the Toy Supermarket

The toy industry was becoming more dynamic in response to changes in consumption patterns. At one time, virtually all operating income had been generated in the fourth (Christmas) quarter, but toy supermarkets such as ToyWorld were becoming profitable year round via aggressive merchandising and marketing of basic products as well as predicting and acquiring "hot" products for the Christmas season. In Spring 1987, market observers noted, "Hot products for Christmas 1987 will surface later than in the past. There is no consensus at the moment over which product and/or category will drive the business." Toy industry sales increased 50% from 1981 to 1986, while ToyWorld sales increased 250%. By Christmas of 1986, the leading four toy supermarkets had about 22% of that year's $14 billion toy market, and increased their share to 27% of $15 billion the following year (see **Tables 1** and **2**). Analysts expected the supermarket share of the toy market to reach 35% by

Professor Lynda M. Applegate prepared this disguised case as the basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation. The original case was prepared by Professor Michael Vitale.

1988. The market losers were catalogers, department stores (such as Bloomingdale's, which closed its toy department in 1983 in response to falling margins), and weaker full-line discounters.

Toys "R" Us, which originated the toy supermarket concept, dominated toy retailing with sales larger than the combined sales of the next 10 toy supermarket chains. ToyWorld's chairman Donald Butler once commented about Toys "R" Us, "They're not really our competitors, they're our idols." In recent years, ToyWorld had homed in on an everyday low-price strategy, selling many popular products at 10% to 40% less than other stores.

Industry surveys indicated that consumers increasingly preferred discount outlets and toy supermarkets as sources for toys, and purchases of multiple items were becoming the normal pattern. Toy prices were increasing sharply: the maximum toy price of $9.99 was outdated, and the new upper limit was $25 or more for conventional toys. In 1976, Atari and others had moved high-technology toys into the elite market niche formerly occupied by toy trains. By 1987, "interactive" toys in the $50 to $250 range had expanded this niche.

Sophisticated media marketing was used to precisely shape the tastes of the decision makers: "Saturday morning television and the consumer's children are transforming the toy business from a staple to a fashion industry similar to apparel, in which "Mr. T" roller skates won't make money after the show goes off the air, even though they are great for skating," said ToyWorld executive vice president and chief financial officer Bob Burns. He also felt that "trends towards celebrity licensing and peer networking make goods more vulnerable to obsolescence, thus increasing risk."

These changes had a powerful impact on marketing, merchandising, and distribution management systems in the industry. Logistics was a particularly difficult problem because the unit price of the average toy left little margin for error. Typically, store and distribution center capacities were only a fraction of what would be required to enable Christmas-quarter sales volumes. As a result, "controlling the cube" (the volume of goods at each step from initiation of the purchase order through placing goods on the shelves) was a critical success factor. If warehouse capacity was not managed well, either excess warehouse space or supply bottlenecks could result.

Table 1 Comparing Toy Supermarkets—Year End, 1987

Chain	Sales ($ millions)		Number of Stores	Total Sales Area (millions of square feet)
	1986	1987		
Toys "R" Us	$1,976	$2,434	338	6,725
ToyWorld	513	629	134	3,025
Kay-Bee	401	505	636	2,044
Lionel Leisure	246	272	68	1,624

ToyWorld Since 1981

Management Changes

From the time of its founding in 1956, ToyWorld's management sought to position the firm to take advantage of industry opportunities as they arose. The company built stores on cheaply acquired real estate, gave buyers wide latitude to exercise individual business philosophies, and did not develop strong management or control systems.

Following King National's 1981 purchase, management strengthened the financial staff, installed new financial planning and control disciplines, redesigned and increased the number of stores, and focused on accurately stocking them to meet consumer tastes and seasonal demand. King itself was purchased in a management leveraged buy-out in September 1984. In August 1985, ToyWorld sold publicly 18.5% of its common stock—some 2.125 million shares—at $16.75 per share, and earmarked the proceeds for inventory, store expansion, and remodeling.

Store Operations

A distinctive external design was adopted for all ToyWorld units to assure easy recognition of the 36,000 square foot "racetrack" stores, which were usually located near a major enclosed shopping mall. The term *racetrack* referred to an extra-wide aisle that was designed to help consumers navigate the mixed merchandise groupings within the brightly colored 25,000 square foot selling space. Products were arranged on 18-foot tall shelves by type (e.g., bicycles, books), by age (e.g., baby, preschool), and by manufacturer (e.g., Fisher-Price, Kenner). The four racetrack corners were anchored by baby furniture, bikes, books, and seasonal products such as swimming pools. A computer and electronics section was located near the registers and information desk at the front of the store. The cash registers were linked to ToyWorld headquarters via a point-of-sale (POS) network.

Toys formed the bulk of the merchandise, with a small sports department. ToyWorld did not sell children's apparel. Product price tags jutted prominently from the shelves, and many rows of each item were stacked side by side, with featured products on the ends of the broad aisles. New stores tended to open at or above company average sales volume.

Table 2 ToyWorld Performance 1981-1987

	1981	1982	1983	1984	1985	1986	1987 (budget)
Net Sales	$178,220	$220,347	$283,161	$360,001	$435, 470	$513,148	$628,834
Gross Margin	51,663	70,226	85,334	108,640	135, 773	157,612	189,888
Income before Taxes	567	10,605	13,303	19,375	19,058	20,802	26,012
Number of Stores (End)	68	71	79	90	104	121	134
Market Share	1.8%	2.0%	2.4%	2.8%	3.3%	3.7%	4.2%

Marketing

In 1986, ToyWorld strengthened marketing and hired a new vice president, Leslie Gold, who articulated ToyWorld's promotional strategy:

> We are instilling a sense of immediacy through circulars—our primary advertising vehicle—while we aggressively promote an everyday low price image via TV and newspapers. When I first arrived, Bill Anderson and I spent a lot of time together figuring out what we needed and customizing reports. Marketing is now heavily automated and has the ability to retrieve quality information and take instant action.

> Assortment planning and store layout are moving more and more to the Plan-O-Gram, a microcomputer-based software tool that models merchandise presentation and helps optimize space utilization. Next to people and inventory, real estate is our most precious commodity.

Merchandising

The 1985 Christmas season was difficult for most retailers, and holdover inventory was a problem throughout the toy industry. The sharp fall in Cabbage Patch doll business, coupled with declines in sales of home computer hardware and entertainment software, left ToyWorld with a serious inventory problem.

Using computerized tools, the firm embarked on an aggressive program to reshape inventory resources during 1986. Raw sales data were acquired via ToyWorld's POS network and fed to IBM's INFOREM (a tool used for sales analysis) to help spot trends—enabling buyers to purchase products before they became in short supply, increasing profits on basic items, and allowing ToyWorld to work down unwanted inventory. "Our buyers evolved from skeptics to believers as predictions started to come true," reported Merchandising Vice President Sam Watson.

Toy supplies were dominated by 10 vendors, and popular items could be obtained only by buying (and thus warehousing) early in the cycle or by close cooperation between suppliers and retailers. Increased confidence in ToyWorld's performance translated directly into profit potential because toy manufacturers, ever wary of unsold merchandise, were more inclined to produce and ship the quantities of goods needed to meet the ambitious sale targets when the firm demonstrated it could forecast sales trends. According to one major vendor, in 1986, ToyWorld had been the first to identify merchandise that would move quickly.

The 1987 Toy Fair also marked an important step toward establishing strategic linkages with key suppliers. Fisher-Price, a conservative supplier with a major share of the quality toy market, indicated its willingness to link ToyWorld to its well-developed systems to provide ToyWorld with current production data. This data sharing was a key component in a broader cooperative agreement involving pricing, advertising, and access to up-to-date ToyWorld sales information.

Distribution

ToyWorld added three distribution centers between 1981 and 1986 to keep pace with the growth in retail outlets. Toys "R" Us had distribution centers serving an average of 2 stores each, versus 25 for ToyWorld.

"The peak sales period for toys is short, and toy packaging is bulky relative to product value. The transportation network between our vendors and the store must have high peak throughput[1] capacity, with low unit costs for handling, warehousing, and transportation," reported Robert Harrington, manager of ToyWorld's Randolph distribution center. Because the total distribution center capacity was less than half of store needs for the Christmas season, product logistics were critical.

Distribution used a fleet of leased trucks for delivery to the stores. The Randolph distribution center had 5 receiving docks for goods arriving by rail, and 25 docks for trucks carrying incoming or outgoing goods. Vendors packed products to ToyWorld specifications, and drivers delivering to

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[1]*Throughput* is a measure of flow, the physical and systems capacity to receive products from the manufacturers, hold them until needed by the stores, and ship them to the correct retail outlet.

Randolph unloaded goods according to instructions provided on arrival. Modified forklifts and custom pallets were used for some products.

Batch computer reports allowed a "cross-docking" dispatcher to compare received products to store needs, and needed goods were shipped to stores overnight. A more dynamic inventory allocation system to support same-day shipping was in the design stages. Computer systems were used to validate receipt and shipping transactions, communicate between process steps, and monitor space utilization, inventory shrinkage, and employee productivity.

Management Information Systems

By early 1987, ToyWorld MIS executives felt they were becoming independent of the day-to-day support that characterized the early period of the King takeover. In 1984, systems were late, computer operations were unable to provide an adequate level of service, and communications with functional areas were in disarray. New leadership, increased resources, and reorganization had turned MIS around. Bill Anderson's predecessor had laid some of the groundwork for recovery, but was soon promoted by King and joined the parent company.

Having left a midwestern drug chain to join ToyWorld, Anderson had moved quickly to establish needed service level and project management disciplines, and to stabilize hardware and software architectures to provide a sound base for the firm's growth to a billion dollar company. In 1984, he informed management of the urgent need to upgrade MIS support systems by adding a more powerful operating system to improve on-line applications availability and resource utilization, and a database management system for the firm's growing data resources.

By Christmas 1986, some departments had microcomputers linked to the central computer, and easy-to-use mainframe tools for inquiries, analyses, and reports were installed. Anderson established a support unit to help solve technical problems and to facilitate end-user access to data. Office automation was introduced. Randolph headquarters acquired a network of word processing units, and electronic mail linked headquarters departments with regional distribution centers. New applications to improve merchandising and distribution performance were implemented, based on sales transaction data captured at the point of sale. These new functions were established with a budget limited to slightly less than 1% of sales in 1984, and growing at a slightly lower rate.

As ToyWorld's maturing strategic planning process became linked with tactical and operational planning, information technology (IT) was tied into critical issues and action plans. IT Planning matured from a 1982 "wish list" to the 48l-page 1986 plan detailing MIS links with corporate strategy and establishing technology, personnel, and financial resource needs.

Planning at ToyWorld

Corporate Strategy

ToyWorld's annual planning process produced four baseline plans: the two half-year operating plans (spring and fall) demanded by the seasonal business cycle; a one-year capital budget (with projections for the second year) to support operating plans; and an annual strategic plan to address long-term issues. Functional plans such as the MIS Strategic Systems Plan were linked to the baseline plans. Most planning was performed by line managers invited to Executive Committee meetings, rather than by staff.

The 15-page, 1986 strategic plan defined the company's mission, highlighted strengths, weaknesses, opportunities, and threats (SWOT), and identified three "critical issues": (1) increase sales per store, (2) increase the number of stores to expand leverage from overhead and support expenses, and (3) convert more sales dollars to profit. Information systems applications were explicitly identified in support of the latter issue only. These issues were refined into two or three strategic targets for each issue, supported by about 30 clearly defined tactics for integration into the two operating plans and the capital budget.

Linking I/S Plans

Strategies were refined and tactics developed in planning meetings called "Vision Discussions" among the executive committee. CFO Burns explained: "One of our visions was that merchandise will be restocked by an invisible hand as the customer takes it off the shelf. The resulting discussion characterized the physical and information flows that would be required to do this, and this appeared in Anderson's MIS plan as an application to dynamically reallocate products arriving at the distribution center to stores on the same day."

The IT Planning Process

In January 1985, Anderson attended an AT&T-sponsored seminar in Boston that described Information Technology Management (ITM), a methodology to identify and evaluate strategic IT opportunities. The nine-step ITM process combined industry and competitive analysis, based largely on frameworks developed by Michael Porter of the Harvard Business School, with a structured search for IT applications that would achieve competitive advantage. ITM also included SIS+^{SM}, a Strategic Information Exchange Planning Service that used an AT&T proprietary computer model to match information technologies with business information flows. Although some of the individual techniques used in the ITM process were not new, their combination by AT&T into a single connected process was unique.

After the ITM seminar, Anderson asked Leslie Rothstein, the AT&T sales representative to ToyWorld, to work with him to implement ITM. Rothstein called Pam O'Mara, a consultant at AT&T's Regional Technical Center in White Plains, New York, and together the two developed a plan for an ITM study at ToyWorld. In June, Rothstein began gathering data through interviews and library research. As she completed each phase of the ITM process, Rothstein reported the results to O'Mara, who analyzed the information and prepared capsule summaries.

The first phase was a description of ToyWorld's business and an industry analysis. The latter used Porter's "five forces" model and attempted to qualify the impact of each force. A strategic analysis came next, leading to summary statements of ToyWorld's strategy and competitive scope. Individual elements of the strategic environment—target markets, product policy, cost position, etc.—were analyzed in more detail. The third phase included an analysis of ToyWorld's value system and value chain, again using Michael Porter's frameworks.

With this environmental and strategic profile, Rothstein and O'Mara moved into phase four of ITM—identify and prioritize strategic opportunities for information technology. The first step identified internal and external linkages of activities outlined in the value chain that could have strategic potential for ToyWorld. Next, the opportunities associated with these linkages were described in detail and their probable impact assessed. For example, Rothstein wrote:

> Opportunity: Catalog Shipping. Create a new sales channel for ToyWorld, providing access to consumers who do not live near a ToyWorld store, thus creating additional opportunities to sell ToyWorld merchandise.
>
> Impact: First and foremost, increased sales would result, etc.

O'Mara and Rothstein prepared an interim report for ToyWorld management. "By this time," O'Mara said later, "ToyWorld management was up to speed on IT and clearly understood the work we had done so far. From AT&T's point of view, we had increased our visibility and rapport by tailoring our sales process to customer needs. We needed to make sure that the linkages were truly strategic—a judgment call that required input from top management." O'Mara presented the results to top management in October and ToyWorld management agreed to pursue the recommendations.

During this time, the company sponsored an additional AT&T study. AT&T's SIX+^{SM} began with a series of workshops over a period of two days that identified about 300 information flows within various functions at ToyWorld. Each flow was profiled in terms of over 100 qualitative and quantitative information exchange requirements. This was fed into a computer model. In addition to assessing the support quality of current technologies used for these information flows, the computer model matched the flows with new and emerging support technologies, which presented potential new opportunities to enhance the company's external and internal information exchange. For ToyWorld, electronic mail with document exchange capabilities, voice mail and messaging, packet switching and a centralized inbound/outbound communications center were recommended. Actual technology proposals that fit these applications were the responsibility of Carl McGrady, Rothstein's successor as the AT&T account executive to ToyWorld.

Laying New Track for the Retail Machine

In preparation for the first 1987 Vision Discussion, Anderson reviewed the AT&T recommendations. Five strategic opportunities for the application of information technology had been identified:

- Market Intelligence: Capture of detailed customer information, development of a database linking attributes of the consumer, purchases, and stores over time, and provision of access to this information to suppliers.
- Electronic Data Interchange: Transmission of purchase order and verification information to increase leverage with suppliers.
- Nonstore Shopping: Creation of a new sales channel to provide access to consumers who do not live in a ToyWorld store area.
- Electronic Shopping Aid: Provision of an automated in-store shopping directory to suggest selections based on attributes of the child.
- Vendor Ticketing: Have vendors attach ToyWorld price tickets to merchandise, saving labor and paving the way for a transition to Universal Product Codes.

Anderson wondered how to gain management support for a project to explore nonstore shopping as a new market channel. He believed that other ToyWorld executives would agree that continued growth of the firm rested on its ability to make long-term changes in the way operating departments worked. But he worried that they would view nonstore shopping as an entirely new business. While he knew the firm's lack of experience in this arena increased the risk of failure, he felt the basic concept was sound if the risks could be contained.

He realized that the relatively small size of ToyWorld's MIS staff and the scarcity of good technical people in the Boston area could be cited as deterrents to every proposal. Recruiting sufficient technical resources to convert to the planned operating system had recently been a problem, and the firm's migration to database technology would absorb all slack MIS resources over the next year or so. ToyWorld did not yet have the MIS technical infrastructure required to succeed in a strategic development effort based on the new technologies identified in the study. Anderson was confident that these problems were manageable, but he knew he would have to convince the Executive Committee.

The more he thought about the study, the more risks he saw. Marketing people had no prior experience with the electronic shopping aid, the nonstore shopping opportunity, or the market intelligence application, and he was not sure that he could convince Gold to pull any of her top people off their current projects to support the development process. Without support from both Marketing and Merchandising, Anderson didn't think these applications would generate enough added sales to cover their costs.

Although Anderson thought the proposed electronic linkage between ToyWorld and the suppliers was a great concept and had strongly supported it, one aspect of the project bothered him. Could ToyWorld prevent sensitive sales information from finding its way, in a conveniently machine-readable format, to ToyWorld's competitors? On a broader scale, how would competitors react to each of ToyWorld's new electronic initiatives, and how could the Executive Committee best evaluate these risks against those of not taking action?

Exhibit 1 ToyWorld Organization, 1987

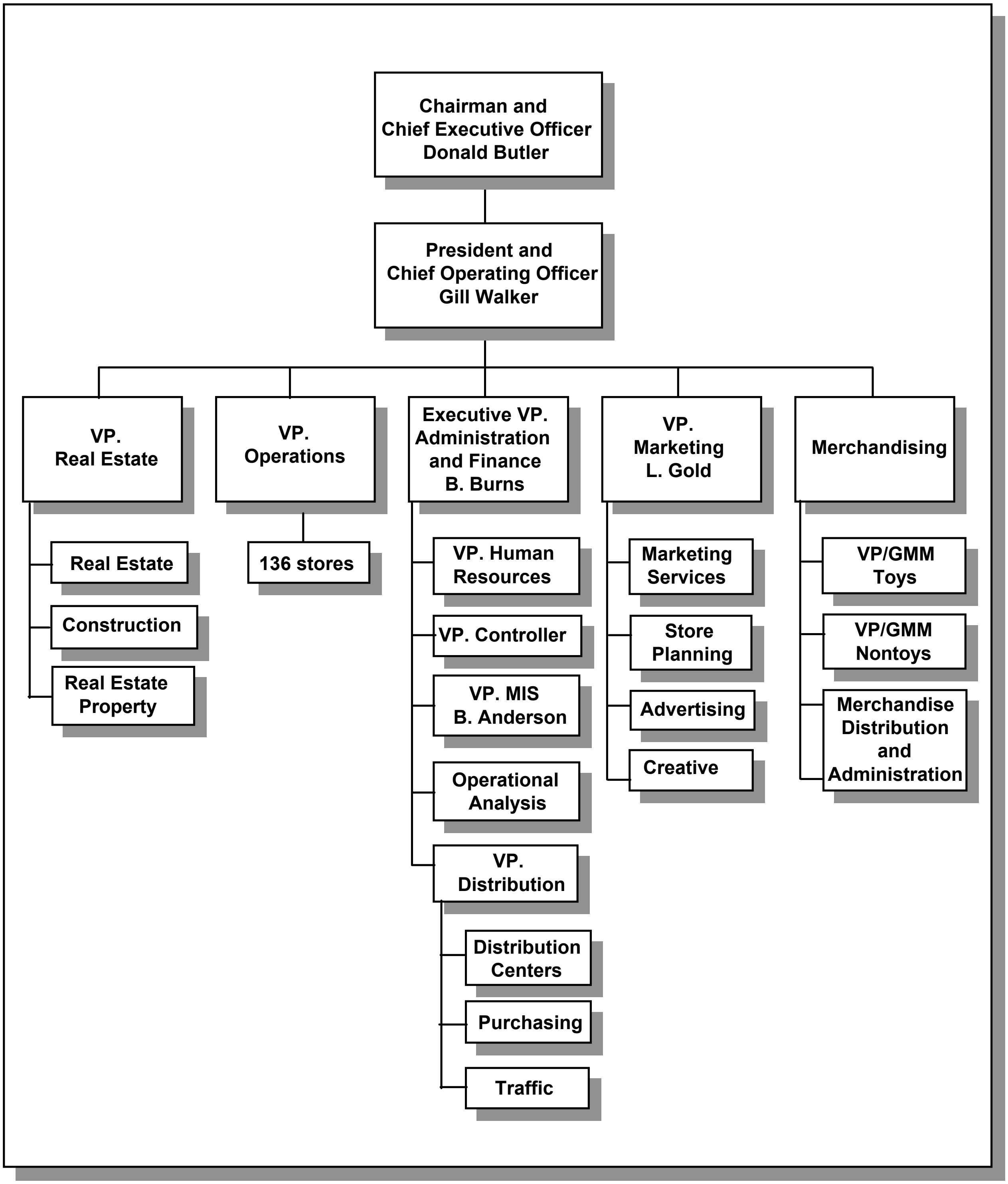

Exhibit 2 Consolidated Balance Sheets ($ in thousands except per share amounts)

	1/31/87	2/1/86
ASSETS		
Current Assets:		
Cash and temporary cash investments	$ 43,467	$ 22,325
Accounts receivable	1,685	2,086
Inventories	178,837	141,183
Prepaid expenses and other	4,626	3,899
Total Current Assets	228,615	169,493
Property and Equipment, at cost:		
Land and buildings	5,600	3,838
Furniture, fixtures, and equipment	35,968	26,449
Leasehold improvements	17,058	13,089
	58,626	43,376
Less—accumulated depreciation and amortization	(12,668)	(6,563)
Total Property and Equipment, net	45,958	38,813
Leased Property Under Capital Leases, net	28,875	31,993
Other Assets	543	578
Cost in Excess of Net Assets of Purchase Business, net of accumulated amortization of $4,713 and $2,693 respectively	76,087	78,107
Total Assets	$ 380,078	$ 318,984
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current Liabilities:		
Current portion of long-term debt	$ 400	$ 100
Current portion of capital lease obligations	1,935	1,769
Accounts payable	129,440	87,536
Accrued liabilities	28,069	20,672
Accrued income taxes	6,992	5,185
Total Current Liabilities	166,836	115,262
Long-Term Debt, less current portion	5,500	5,900
Capital Lease Obligations, less current portion	24,245	26,180
Deferred Income Taxes	1,689	783
Stockholders' Equity:		
Preferred stock—par value $1.00 per share, authorized 5,000,000 shares, no shares issues	—	---
Common stock—par value $ .10 per share, authorized 25,000,000 shares; issued and outstanding: 11,500,000 shares at 1/31/87 and 2/1/86.	1,150	1,150
Capital surplus	158,781	158,781
Retained earnings	21,877	10,928
Total Stockholders' Equity	181,808	170,859
Total Liabilities and Stockholders' Equity	$ 380,078	$ 318,984

Exhibit 3 Selected Financial Data ($ in thousands except per share amounts)

	The Company			The Predecessor Company [a]	
	52 Weeks Ended	52 Weeks Ended	Pro Forma[b] 53 Weeks Ended	52 Weeks Ended	
	1/31/87	2/1/86	2/2/85	1/28/84	1/29/83
Income Statement Data:					
Net Sales	$ 628,834	$ 513,148	$ 435,470	$ 360,001	$ 283,161
Costs and Expenses:					
Cost of goods sold	438,946	355,536	299,697	251,361	197,827
Operating expenses	148,282	119,862	103,161	81,133	63,717
Depreciation and amortization	11,355	10,177	9,251	5,335	4,925
Total Operating Expenses:	598,583	485,575	412,109	337,829	266,469
Income from Operations	30,251	27,573	23,361	22,172	16,692
Interest Expense, net	4,239	6,771	4,303	2,797	3,389
Income before Income Taxes	26,012	20,802	19,058	19,375	13,303
Provision for Income Taxes	15,063	11,434	10,656	9,377	6,464
Net Income	$ 10,949	$ 9,368	$ 8,402	$ 9,998	$ 6,839
Earning per Share	$ .95	$ .91	$ .73		
Weighted Average Number of Shares in thousands	11,500	10,286	11,500		
Dividend Per Share					
Balance Sheet (at period end):					
Total Assets	$ 380,078	$ 318,984	$ 296,366	$ 181,495	$ 134,547
Long-Term Debt, Including Current Portion	5,900	6,000	6,000	6,000	600
Non-Current Portion of Capital Lease Obligations	24,245	26,180	25,998	26,180	30,198
Stockholder Equity	181,808	170,859	166,696	59,917	49,395
Other Data:					
Selling Square Footage	3,269,000	2,851,00	2,463,000	2,094,000	1,803,000
Number of Stores	134	119	104	90	79

[a] In September 1984, DLD Holding Corporation acquired King National Corporation (King), then the company's parent. The term "Predecessor Company" refers to the Company, for accounting purposes, prior to the acquisition, which for financial reporting purposes, has been treated as a purchase effective September 22, 1984.

[b] Gives effect to the acquisition, as discussed in a, and the sale of common stock in August 1985 as if they had occurred on January 29, 1984, the beginning of the fiscal year.

[c] In 1985, the company made a one-time distribution of $40 million to King in the form of a dividend, which distribution approximated the accumulated retained earnings of the company since its acquisition by King in fiscal 1980.

Exhibit 4 ToyWorld's Information Technology Planning

Nonstore shopping has established roots: rural Americans of another generation cherished the Montgomery Ward and Sears' catalogs (as today's urban generation reviews Sharper Images) for access to new apparel styles, to magazine subscriptions, home accessories, and home and office tools and equipment. Research indicated that home shoppers tended to be female, to have larger-than-average families, and above-average household income.

As communications technology shifted from printed catalogs to electronic media, several new television-based shopping channels emerged, offering close-out merchandise at deeply discounted prices, financial services, and other goods. By mid-1986, one channel, Florida-based Home Shopping Network (HSN), was seen in 8.5 million homes, had 349,000 paid subscribers, and was studying establishing a 24-hour national distribution network.

Exhibit 5 IT Planning

MIS Personnel Resources (from 1986 plan)

Year Ending Feb.	1985*	1986*	1987*	1988	1989
MIS Management	4	4	4	5	5
MIS Support Staff	2	2	3	4	4
Computer Operation	9	10	12	14	16
Production Control	7	7	8	9	10
Technical Support	2	2	3	4	5
Retail Systems	3	3	4	4	4
Telecommunications	0	3	4	5	6
Information Center	15	1	2	3	5
Systems Development	0	7	3	2	0
Data Entry	8	18	18	20	25
Total MIS Personnel	50	57	61	70	80
MIS Financial Plan:	$4,152	$4,647	$5,515	$6,549	$7,520
% of Sales	.9%	.9%	.9%	.8%	.8%

* Actual staff positions

Hardware and Software Tools: 1986

Description	Product	Vendor
Hardware		
Personal Computers	PC/XT or AT	IBM
Remote Access	Leased lines	AT&T
Mainframe	4381	IBM
Minicomputers	S/36	IBM
POS Network	9020/9100/751/2152	NCR
Mainframe Systems Software		
Database/Dictionary	Datacom/DB-DD	ADR
Query Language	Dataquery	ADR
Report Generator	Easytrieve Plus	Pansophic
Application Generator	IDEAL	ADR
Program Librarian	VOLLIE/Librarian	ADR
PC-Mainframe Link	Omnilink	On-line
Operating System	DOS-VSE (MVS/VM planned)	IBM
Mainframe Network	VTAM-NCF-SDLC (SNA)	IBM
POS Network	Nonstandard bisynch	NCR
PC Software		
Spreadsheet	1,2,3	Lotus
Business Graphics	1,2,3	Lotus
Word Processing	Multimate	Multimate
Database	D-Base III	Ashton-Tate
	R-Base 5000	MicroRim

Exhibit 5 (continued) IT Planning (continued)

Systems Development Priorities, Early 1986 *

1. Merchandise/Distribution Systems
   a. Migration from files to database technology
   b. Sales Forecasting
   c. Shipping Manifest
   d. Warehousing Systems
   e. On-line Receiving
   f. Physical Inventory
   g. Stock Status
   h. Purchase Order Management
   i. Pricing
   j. Assortment Planning
   k. Expansion of Warehouse Network
2. Store Information Systems
   a. In-store Processor
   b. Layaway
   c. Electronic Mail
   d. Payroll/Time Attendance
   e. Labor Scheduling
   f. Check Guarantee
   g. Receiving
3. Financial Systems
   a. Accounts Payable
   b. Invoice Matching
   c. Purchasing Planning
   d. Merchandising Planning
   e. Marketing Information Systems
4. MIS Infrastructure Systems
   a. IDEAL
   b. Job Accounting
   c. VSE to MVS operating systems conversion
   d. VM Operating Systems

*from 1986 MIS Strategic Plan

Exhibit 6 Seven Criteria Established by MIS

MIS established seven criteria to prioritize applications projects:

1. Consistency with division strategic plan;
2. MIS objectives defined by CEO;
3. Availability of user/MIS resources;
4. ROS/tangible benefits;
5. Corporate requirements;
6. Intangible requirements;
7. Dependencies to the projects/requirements.

Exhibit 7 Miscellaneous Financial Data ($ in thousands)

	1981	1982	1983	1984	1985	1986	1987
Net Sales	$ 178,220	$ 220 ,347	$ 283,161	$ 360,001	$ 435,470	$ 513,148	$ 628,834
Gross Margin	51,663	70,226	85,334	108,640	135,773	157,612	189,888
Income before Tax	567	10,605	13,303	19,375	19,058	20,802	26,018
No. of Stores (End)	68	71	79	90	104	121	134
Sales/Store (End)	$ 2,621	$ 3,103	$ 3,584	$ 4,000	$ 4,187	$ 4,241	$ 4,694
Selling Sq. Footage	1,525,639	1,602,000	1,803,384	2,093,663	2,462,888	2,851,000	3,269,000
Sales/1,000 Sq. Ft.	$ 117	$ 138	$ 157	$ 172	$ 177	$ 180	$ 192
No. of Distribution Centers	3	3	3	3	4	6	6
Return on Sales	.32%	4.81%	4.70%	5.38%	4.38%	4.05%	4.40%