



# GRADUATE SCHOOL OF BUSINESS STANFORD UNIVERSITY

CASE NUMBER: EC-14

MARCH 2000

## TRADEWEAVE

In May 1999, the board of directors and senior management of QRS were considering the opportunities the Web presented. The Internet seemed to hold the potential to dramatically improve the functioning and structure of demand chains. QRS was well positioned to participate in those trends but which opportunities to pursue was unclear. Moreover, the QRS management team was running flat out in pursuit of its primary objectives – to tightly manage the company’s existing businesses and find, execute, and integrate acquisitions that would enhance to its existing businesses. Some established companies were pursuing Internet opportunities through separate “dot coms,” sometimes in partnership with venture capitalists. QRS would have to decide whether to emulate them or stretch its existing management structure. One thing was clear: QRS would need to move quickly if it expected to control its own destiny and fend off competitors.

### QRS BACKGROUND

Founded in 1985, QRS Corporation aimed to be a leading provider of demand chain management services to suppliers of consumer goods.<sup>1</sup> By 1999, the company had become a leading provider of electronic data interchange (EDI) services to the U.S. retail industry. Reselling IBM’s network services, QRS had achieved a 40% market share for EDI services in the soft goods sector (apparel, accessories, and footwear). It had also developed the retail industry’s largest and most widely used Uniform Product Code (UPC) catalog. With over 7,700 customers, including 270 retailers and nearly 7,500 manufacturers and carriers, QRS was an ingrained service provider to the retail industry.

Since its initial public offering in 1993, QRS had generated sales growth of 33% and net income growth of 36% on a compound annual basis. In 1998, sales and net income were \$91.9

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<sup>1</sup> See the Stanford GSB Case, “QRS”, EC-3, for a more detailed discussion.

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Research Associate David Doctorow (MBA 2000) prepared this case under the supervision of Professor Garth Saloner and Professor A. Michael Spence as the basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation. Margot Sutherland, Executive Director, Center for Electronic Commerce and Business, Stanford Graduate School of Business managed the development of this case. Research support provided by The Boston Consulting Group is gratefully acknowledged.

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million and \$12.1 million, respectively. Over all but one of the last ten quarters, QRS had generated quarter-over-quarter sales and earnings growth of at least 20% (Exhibits 1 and 2). This consistency was attractive to institutional investors who had seen QRS's market capitalization, which was \$697 million at the end of June 1999, grow 43% on a compound annual basis over the previous three years (Exhibit 3).

The QRS Keystone catalog was the company's flagship product. Developed in 1987, it helped retailers and suppliers improve their purchasing and fulfillment operations: suppliers could upload current UPCs to the database, and retailers could retrieve accurate UPCs for their ordering and inventory-management systems. Keystone contained nearly 73 million UPCs as of mid-1999, over 42 million of which were apparel related. The catalog contained significantly more UPCs than any competing product and was more than an order of magnitude larger than the average retailer's UPC portfolio of 1 million.<sup>2</sup> With such a large share of all apparel UPCs, QRS was well positioned to be the market-leading provider of demand chain management services to participants in the apparel goods market, including retailers and vendors.

To cultivate the Keystone installed base, QRS had pursued a hub-and-spoke customer acquisition strategy, focusing its marketing efforts first on senior management at large retailers such as Federated who could understand the value proposition and could define the "terms of trade" with their vendor trading partners. The Keystone catalog cut retailers' costs by automating processes, improving information quality, and tightening monitoring and control. QRS provided secure, reliable, and high quality service. When QRS's "hub" retailers announced that they would only procure products electronically through QRS and mandated trading partners to upload their own product portfolios into the Keystone Catalog, the weaker "spoke" vendors had to join in. QRS captured a portion of the value its system created for hub retailers by charging both hubs and spokes subscription and transaction fees. In the process, QRS developed relationships with executives in the spokes' IT organizations.

Although some large apparel vendors were not yet "hub" customers, QRS was concerned that its continued growth would slacken as the Keystone base matured within the apparel goods market. To further its reach, QRS broadened its customer acquisition efforts to include large vendors, many of which had already become QRS customers through their relationships with large retailers. Most of these vendors could also dictate their terms of trade with smaller retailers.

To stimulate additional revenue, QRS had developed new products within its Inventory Management Services and Logistics Management Services product lines. It had also acquired a few companies, including its service bureaus (SBs) and Retail Data Services (RDS). The SBs, QRS's fastest growing business, helped small vendors convert electronic purchase orders from retailers to hard copy for vendors and converted paper documents from vendors to electronic format for transmission to retailers. RDS was a national market research and data management firm serving the grocery and consumer packaged goods markets that collected, verified and analyzed competitive retail pricing, promotion, and distribution information.

QRS's senior management and board of directors had also begun to consider strategic alternatives that might bolster the company's ability to generate consistent earnings growth. One option was to broaden the scope of the installed base beyond apparel to include other UPC-driven

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<sup>2</sup> Source: QRS internal research.

verticals, such as sporting goods,<sup>3</sup> canned foods and grocery, household furnishings, toys, and general merchandise. A second was to create more new product offerings in-house. A third was to acquire more companies that could enhance the QRS product portfolio. The board also considered creating new, organizationally segregated businesses that might enhance and deepen the QRS product offering to provide a more complete solution for the needs of its existing and future customers.

## QRS AND THE U.S. APPAREL GOODS SUPPLY CHAIN

Apparel retailing was a \$192 billion market in the U.S. in 1998.<sup>4</sup> Together with general merchandise retailing, which included department store retailers, this represented a retail trade of approximately \$500 billion (see Exhibit 4). The top 10 apparel retailers, 8 of which were QRS customers in 1998, distributed approximately 50% of apparel retailing dollar volume.<sup>5</sup> The top 50 apparel retailers, 26 of which were QRS customers in 1998, distributed approximately 83% of this dollar volume. Of the remaining thousands of US apparel retailers, a small percentage were QRS customers in 1998. Overall, QRS did business with retailers that represented approximately 57% of the apparel retailing market.<sup>6</sup> General merchandise department stores were the largest channel within this market, approximately 34% of total volume. QRS did business with retailers that represented over 90% of volume in this channel in 1998. QRS management also believed that it controlled roughly 57% of the outsourced demand chain management services market in the apparel goods retailing.

Net profit margins for most retail segments were typically in the low to middle single digits: department and discount stores, for instance, averaged 3.1% over the last five years; grocery stores, 2.2%; home improvement stores, 4.7%; drug stores, 2.6%; and apparel retailers, 6.9%.<sup>7</sup>

In 1998, QRS management believed that approximately 7,000 vendors supplied apparel and general merchandise to retailers.<sup>8</sup> A dominant portion of manufacturers distributed non-branded merchandise to private label retailers.<sup>9</sup> However, a smaller group of leading vendors, such as Tommy Hilfiger and Levi Strauss, accounted for a large dollar volume and distributed branded merchandise to a more select group of retailers. In certain segments of the apparel industry, branded manufacturers was an especially significant portion of volume, as Table 1 indicates.<sup>10</sup>

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<sup>3</sup> Roughly 60% of the sporting goods products were apparel-related.

<sup>4</sup> Source: The Boston Consulting Group. According to S&P Apparel & Footwear Industry Survey, 1998 market was actually \$180 billion. Estimate based on retail trade dollars, which were roughly 2.0x wholesale cost to retailers at the margin (N.B. wholesale cost to retailers equals vendor revenues, in theory). Includes retail sales by vertically integrated retailers, such as The Gap, that manufacture, distribute, and sell their own merchandise through captive channels to end consumers.

<sup>5</sup> These and following are casewriter estimates.

<sup>6</sup> Source: Tradeweave Opportunity Analysis, August 31, 1999.

<sup>7</sup> Retail profitability data from Market Guide, Inc. (published by OneSource Information Services, 8/99).

<sup>8</sup> Some vendors manufactured their own merchandise and distributed it through non-captive retail channels – these were known as “vendor/manufacturers.” Other vendors outsourced the manufacturing of the product that they distributed.

<sup>9</sup> Based on estimates prepared by QRS indicating that approximately 10% of vendors supply branded merchandise.

<sup>10</sup> Source: QRS internal research.

Table 1

	Number Of Vendors		% Branded Of Top Vendors
	Branded	Top	
Pants	13	16	81%
Women's Sportswear	26	27	96%
Sportswear	13	14	93%
Intimate Wear	4	5	80%

In addition, roughly half of vendors produced “basic” merchandise, or “basics,” items that remain in style from season to season and year to year, while others produced “fashion” items that were more transitory.<sup>11</sup> Table 2 illustrates this split for a few segments of the apparel industry.<sup>12</sup>

Table 2

	Number Of Vendors			% Basics Of Top Vendors
	Basics	Fashion	Top	
Pants	13	3	16	81%
Women's Sportswear	-	27	27	0%
Sportswear	9	5	14	64%
Intimate Wear	5	-	5	100%

A small proportion of vendors also maintained a direct marketing channel to consumers through outlet stores and/or a Web site. As of 1998, QRS management believed that approximately 2,000 vendors maintained a World Wide Web presence, although most did not support e-commerce transactions. QRS management believed that its apparel vendor customer base represented roughly 70% of the total \$74 billion 1998 wholesale vendors' volume in the apparel industry<sup>13</sup> and that it also controlled roughly 70% of the outsourced demand chain management services market in the apparel goods manufacturing vertical.<sup>14</sup> Net profit margins for most vendor segments were typically below 5%.

## SURPLUS MERCHANDISE IN APPAREL GOODS RETAILING

One possible Web-based opportunity lay in the surplus merchandise area, which had attracted attention from nascent Web companies. Some retailers considered surplus merchandise any merchandise that was marked down. Others defined surplus as merchandise that was disposed of through outlet stores or liquidation channels, including “jobbers,” intermediaries that acquired surplus merchandise to sell it to “re-sellers,” off-price or off-style retailers. Vendors generally considered surplus to be any merchandise that resulted from production overruns,

<sup>11</sup> Note that perishable in the apparel goods context was best described by fashion merchandise, which may not be salable in the next selling season, as might be the case for “basic” merchandise.

<sup>12</sup> Source: QRS internal research.

<sup>13</sup> Source: Tradeweave Opportunity Analysis, August 31, 1999. Excludes “wholesale” revenues associated with vertically integrated retailers.

<sup>14</sup> Source: QRS internal research.

cancelled orders, out of season merchandise, short lots, damaged goods, irregulars, returns, or discontinuations.

Surplus merchandise was a fact of retailing life. In apparel retailing, design, order, and production lead times could be as long as 6-12 weeks, 4 months, and 6-8 weeks, respectively.<sup>15</sup> As a result, early estimates of expected demand, which varied randomly – and sometimes dramatically – from actual demand, determined styles, order, and production quantities. For instance, even unusual weather could cause excesses or shortages, as happened, for example, in Vancouver, Canada, when unusually heavy rains during the summer of 1999 unexpectedly and negatively affected swimsuit sales.<sup>16</sup>

For an apparel vendor, which earned a poor margin on average, a production underage was more costly than a production overage. Similarly, for an apparel retailer, failing to stock a specific item that was in demand was more costly than carrying an item that did not sell right away. As a result, both vendors and retailers tended to carry generous safety stocks that they would have to dispose of them as quickly and efficiently as possible at the end of a selling season. In 1998, approximately 15% of merchandise that apparel vendors distributed had to be liquidated, implying a vendor-generated surplus merchandise market of \$11 billion.<sup>17</sup>

In apparel retailing, where retail buyers were generally responsible for demand forecasting and determining order quantities and pricing, the surplus merchandise problem was especially acute. Buyers for retailers changed position or left roughly every 9 months on average. They were also generally rewarded for sales volume and gross margin performance. As result institutional knowledge – which tended to be an ancillary objective for retail buyers at best – suffered.<sup>18</sup> As a result, some retailers had given other managers, such as the vice president of finance, the responsibility to dispose of surplus merchandise. In 1998, apparel retailers disposed of 5% of the merchandise they acquired outside of their stores, implying a (narrowly defined<sup>19</sup>) retailer-generated surplus merchandise market of \$9 billion wholesale dollars.<sup>20</sup> Together with vendor-generated surplus, this implied a total apparel surplus market of \$20 billion in 1998, up from \$2.5 billion in 1994 and \$5 billion in 1995.<sup>21</sup>

## **SURPLUS MERCHANDISE DISPOSITION**

Both apparel vendors and retailers considered surplus merchandise disposition a time-consuming, inefficient and painful process. In a space-constrained retail environment, the retailers' opportunity, holding and incremental marketing costs for unsold merchandise were severe. Retailers would mark down as much as 45% of their merchandise to prices that were a

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<sup>15</sup> Source: QRS internal research. Based on discussions with the Director of Inventory Management at Levi Strauss. Although initially placed four months ahead, retailer orders may be revised as frequently as every 2 weeks based on actual selling. Design lead time estimate varies based on whether fabric and finish are already developed; estimate allows for pattern fits and changes and completion of engineering specifications for a complete size range.

<sup>16</sup> The weather in Vancouver probably also unexpectedly increased demand for waterproof wind-breakers, but this likely only partially mitigated the retailers' surplus problem, since they probably had not planned to sell (and therefore did not buy) as many waterproof wind-breakers as consumers demanded.

<sup>17</sup> Source: The Boston Consulting Group and Tradeweave research, 1999.

<sup>18</sup> Estimate of retail buyer turnover based on industry lore and Peter Johnson's personal observations over time. According to Johnson, sometimes the buyers transferred between categories, moved between buying and selling, were promoted, left to join another retailer or a vendor, left retailing altogether.

<sup>19</sup> Narrowly defined because this definition only includes the surplus that is likely to be reach liquidation .

<sup>20</sup> Source: The Boston Consulting Group and Tradeweave research, 1999.

<sup>21</sup> Source: Catalog Age, 4/26/96.

small fraction of wholesale cost to avoid disposing of the merchandise in some other way.<sup>22</sup> Powerful retailers also negotiated financial returns-to-vendor (RTVs), in which vendors would credit retailers with part of their original disbursement. While these concessions mitigated the retailers' costs, the physical merchandise typically remained with the retailers, who still had to dispose of the surplus. In addition, although many retailers attempted to track merchandise flows by UPC, retail shrinkage and physical handling costs made cataloguing merchandise for sale to jobbers a difficult, manual task. As a result of all these costs, retailers generally recovered only 10-20 cents on the wholesale cost dollar through sales to jobbers. Consequently they only disposed of 5-10% of surplus merchandise through these channels, on average.

With limited physical space and the threat that surplus disposition would either "train" consumers to wait for off-price merchandise at the end of season or cause channel conflict, surplus merchandise disposition also troubled vendors.<sup>23</sup> In addition, vendors of branded and fashion merchandise tended to be especially concerned about diluting their brands. Some even shredded their merchandise and sold the remnants as rags. Others developed relationships with jobbers and re-sellers whom they came to trust over time. A salesperson whose only job it was to sell surplus or by the head merchant at vendors' outlet stores generally managed these relationships.

Some companies such as Ross Stores, a large retailer representing approximately 17% of the pure play large re-seller market, with net sales of \$2.2 billion in 1998, actively sought to create this trust. Ross maintained a 150-person buying organization that regularly called on a pre-established list of vendors (Exhibit 5).<sup>24</sup> Other companies, including some large, branded vendors who wished to remain unnamed, worked with only a few jobbers, who in turn sold merchandise in those U.S. and foreign markets that were least likely to create channel conflict.<sup>25</sup>

In 1998, roughly 40-60% of apparel surplus merchandise (more broadly defined) was disposed of through captive channels, such as outlet stores and Web sites.<sup>26</sup> In addition, 30-50% was disposed of through large re-sellers, such as TJ Maxx, Filene's Basement, Ross Stores, and Burlington Coat Factory. The remaining 5-10% of surplus was disposed of through other intermediaries, including international retailers. Jobbers frequently serviced this portion of the market.

## **NEW ENTRANTS ON THE SURPLUS MERCHANDISE DISPOSITION SCENE**

Recognizing the inefficiencies in the current surplus disposition process, Web-based intermediaries were trying to make surplus merchandise disposition more efficient and effective. While new entrants and potential substitutes were emerging, QRS believed that none of the current players was adequately servicing the apparel goods vertical, the one that it believed it was best positioned to serve. To date, most new entrants had maintained a broader focus on connecting buyers and sellers in general or on surplus merchandise in general rather than on doing so in the apparel vertical specifically.

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<sup>22</sup> Source: QRS Corporation press release, 12/1/99.

<sup>23</sup> Certain retailers may be concerned with the same issues with respect to their own private label merchandise.

<sup>24</sup> Pure play "Large Resellers" assumed to include TJX Companies, Ross Stores, Burlington Coat Factory Warehouse and Filene's Basement. Excludes comparable companies that were subsidiaries of larger holding companies.

<sup>25</sup> Source: Tradeweave internal research. Of these there were purportedly roughly 15 major U.S. ones.

<sup>26</sup> Source: Tradeweave Opportunity Analysis, August 31, 1999.

### ***Business-to-Business Multi-Vertical Sites***

A cursory analysis indicated that at least a dozen business-to-business sites provided content, commerce, and community functionality specific to a given vertical (or multiple of them). Only a few seemed to focus on disposing of surplus merchandise. Even fewer were generating significant volume. TradeOut and VerticalNet were among those that were.

TradeOut.com claimed to be “the world’s leading online marketplace for buying and selling surplus.” It had created an engine for sellers of surplus to post merchandise for sale and for buyers to browse by industry vertical and/or product category. The company had established 7 super-categories of listings in over 100 product categories. Although apparel and footwear was one of these categories, fewer than 100 auctions were posted and outstanding as of September 1999.

VerticalNet, a public company with a \$1.8 billion market capitalization, claimed to be “the Internet’s leading creator and operator of vertical trade communities” by attracting buyers and sellers from around the world with similar professional interests through relevant content, community and commerce features. It updated daily content, which included white papers that industry leaders wrote, interactive software, industry news, product information, directories, classifieds, job listings, and other services. Community tools enabled users to exchange ideas and information. Although not explicitly focused on surplus merchandise and in their infancy stages, commerce features included the ability to transact in an auction. VerticalNet had already created or acquired communities in various evolutionary stages in over 40 different verticals. In 1999 VerticalNet did not cover either apparel or footwear.

QRS believed that other business-to-business multi-vertical sites had already or might enter the surplus merchandise disposition market to cover particular niches. For example, Liquidation.com professed to be the leading (and first) business-to-business liquidation auction. It posted limited number of items for sale as of September 1999 – some of which were apparel – but virtually no bids were outstanding.

### ***Business-to-Business Apparel Vertical Sites***

Although a number of different players had begun to emerge, none appeared to be building either a functionally robust site or an installed base. Nonetheless, many sought to improve the efficiency of the apparel surplus merchandise market.

Apparelbids.com planned to develop a Web site with three sections: auction, warehouse, and classified advertising. According to the company, “The Auction section will be for machinery and large apparel liquidation... the Warehouse section will offer off-price merchandise at a set price on a daily basis that is available for immediate shipment subject to prior sale... [and] the Classified Advertising section will provide access to numerous products and services....”

C-Me planned to connect retailers with their vendors via private Internet Sourcing Networks and to host a “Virtual Trade Show,<sup>TM</sup>” a centralized product showcase that featured vendors’ products and allowed buyers to customize searches. It also provided customized web

design and hosting for vendors and was planning to launch a “Wholesale Auction Center” and a “Factory Outlet Mall.” Although not 100% focused on business-to-business activities, this seemed to represent most of the site’s focus. How surplus disposition would figure in the site’s offering was unclear.

Other apparel-focused sites had appeared on the scene, but had not determined their service offerings yet. These sites included ApparelDistrict and ClothingBids.

### ***Business-to-Consumer Multi-Vertical & Apparel-Focused Sites***

Dozens of business-to-consumer, surplus-focused sites had appeared on the scene, but few had gained traction in apparel surplus. Among those that had or seemingly could were OnSale and BuyClearance, both a multi-vertical sites, and BlueFly, which was focused specifically on apparel goods.

OnSale, which merged with Egghead, had created a single shopping site for new and surplus computers, electronics, sporting goods, and vacations. Unlike Priceline, OnSale/Egghead had traditionally taken possession of its inventory, primarily first-run merchandise. However, through its product categories it maintained a substantial presence in surplus auctions. Egghead.com had a market capitalization of approximately \$600 million.

BuyClearance, a new online store that was part of the Buy.com family, maintained that it would purchase “high-quality, brand-name merchandise from some of the most popular manufacturers” at volume discount prices (and presumably pass some of the benefit on to consumers). The company obtained its inventory through liquidations, overages, promotions, and discontinuations. BuyClearance also took possession of its inventory. Up to this point, BuyClearance had focused on computer products, home electronics, and technology-related “value bundles.”

BlueFly hoped to become “the preeminent Internet retailer of excess and end-of-season apparel, fashion accessories, and home products. To achieve this objective, it had focused its resources on pioneering the direct-to-consumer name brand discount apparel market on the Internet. By December 1998, after only 4 months in operation, it had shipped over 2,733 orders and hosted 664,000 unique visitors. The site offered approximately 3,400 styles of products from over 90 branded designers. Bluefly’s market capitalization was approximately \$70 million.

### ***Bricks & Mortar Companies Maintaining Outlet and/or Online Presence***

Some retailers and vendors had also begun to rely more heavily on liquidating through their own outlet stores and Web sites. As of mid-1999, Land’s End, J.C. Penney, J. Crew, Eddie Bauer, The Gap, and REI all disposed of surplus merchandise online.<sup>27</sup> Many other companies maintained their own bricks and mortar outlet stores, including Nordstrom, J. Crew, The Gap, Nine West, Eddie Bauer, Old Navy, Levi’s, and Guess.<sup>28</sup>

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<sup>27</sup> Source: Tradeweave internal research.

<sup>28</sup> Source: QRS internal research.



## TRANSACTION FACILITATOR REVENUE MODELS

Generally, business-to-business auction transaction facilitators such as Chemdex, Paper Exchange, MetalSite, and NeoForma charged the seller of merchandise a fee calculated as a percentage of the aggregate transaction value. The marginal percentage charged per dollar transacted typically fell at certain pre-determined volume levels, so that the average unit cost of a transaction generally fell with incremental volume.<sup>29</sup> In general, this commission fee ranged from 0% (e.g., ClothingBids.com) to 12% (e.g., NeoForma for small transactions). Some sites applied a fixed fee to all transaction levels. Typically, the buyer did not pay a transaction fee.

Many business-to-business auction transaction facilitators had either implemented, or were considering other revenue models, including but not limited to:

- Listing fees – upfront and fixed fees per transaction that prospective sellers usually paid whether or not a transaction was consummated
- Hosting fees – fees that vendors or retailers paid who wanted to conduct their own auctions (potentially co-branded with the auction transaction facilitator), but did not want to create their own auction processing engine
- Image scanning fees – fees that prospective sellers of merchandise paid who wanted to outsource the production of a digital picture of the merchandise for sale
- Subscription fees – fees that prospective buyers and/or sellers paid to gain access to an auction market
- Advertising – fees that prospective sellers of merchandise paid in exchange for the chance to stimulate demand for their merchandise; also fees that those who were likely to gain targeted access to the participants in the auction community, such as trade publications or prospective employers, paid.

## DEMAND CHAIN INEFFICIENCIES

QRS also wondered whether other Web-based opportunities to minimize surplus rather than accept it as a fact of life. Surplus only arose because the wrong goods were in the wrong place at the wrong time. A long-time goal of the use of information technology to improve the operation of demand chains had been to ensure that information was where it needed to be to match production with demand. QRS' mission had been to help retailers and vendors achieve that goal.

Yet much inefficiency remained. For example, buyers typically “went to market” seasonally and then ordered what they thought would sell. Invariably, however, demand would exceed what they had ordered in some lines and fall below it in others. At that point, the retailer either had to deal with the surplus issue or scramble to find substitutes for the items that were in high demand. They currently had no good way to do that.

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<sup>29</sup> This is sometimes called an inverse sliding scale. For example, suppose a transaction closes for \$100,000. The first \$5,000 might be charged at 7%, producing a fee of \$350; dollars \$5,001 to \$25,000 at 5%, producing a fee of \$1,000; dollars \$25,001 to \$100,000 at 3%, producing a fee of \$2,250. The total fee would be \$350+\$1,000+\$2,250= \$3,600.

Going even further back in the purchase cycle, the vendors had to decide what lines to produce with limited knowledge of what the retailers would find appealing. Moreover, no forum for “give-and-take” around product design to meet the requirements of specific retailers existed. When it came time to order, there was also the need for a conversation between retailer and vendor about what assortment (number of items by size, style, color, etc.) to provide. The retailer and vendor typically had different information about what was optimal, and so here too some conversation back and forth was required.

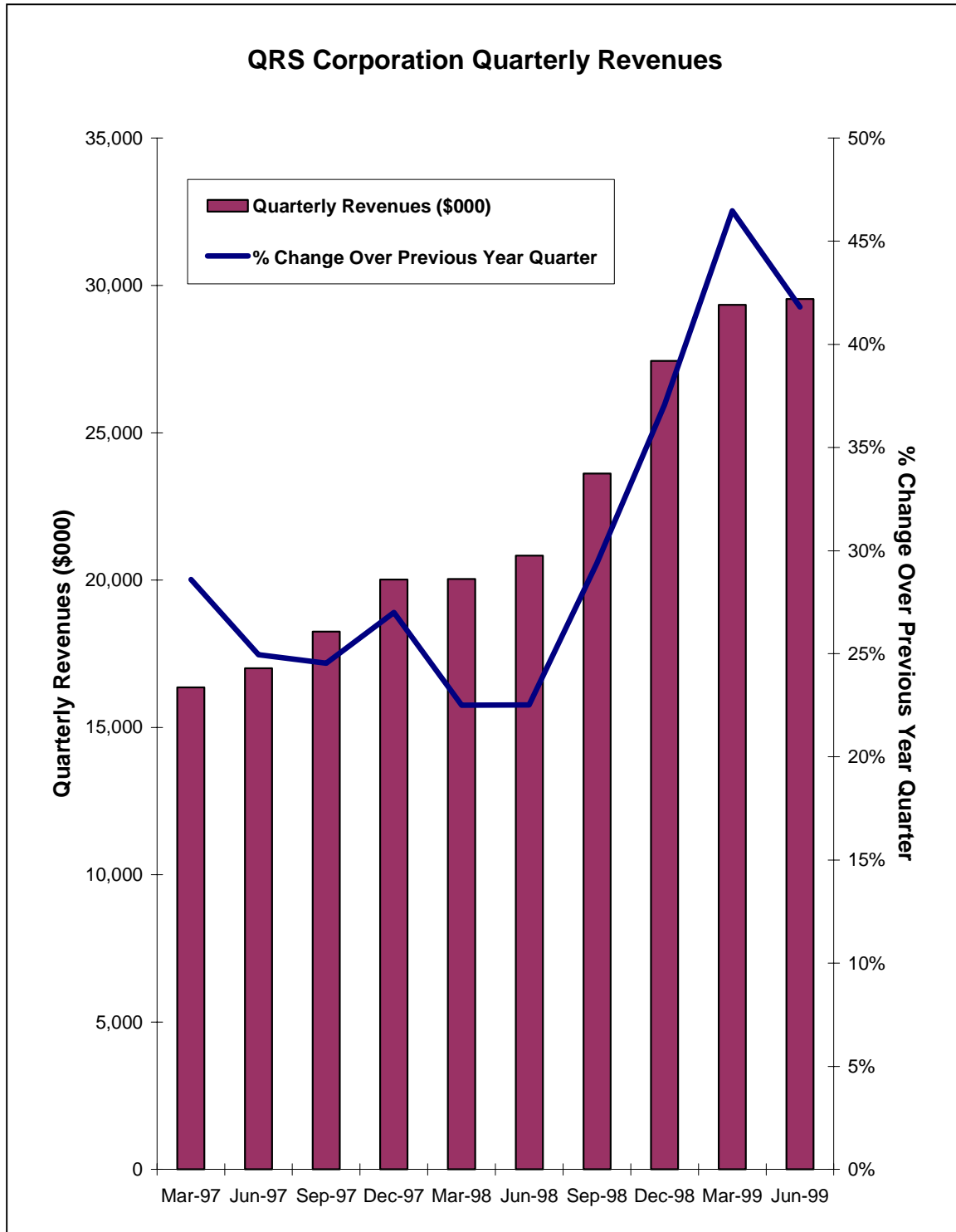
While QRS’ inventory management and sales analysis products improved the functioning of the retail demand chain, senior management wondered whether the Internet did not provide additional opportunities. Rather than taking surplus as given and worrying about its efficient disposition, perhaps they could attack the core problems that caused surplus in the first place.

## **ORGANIZATIONAL AND IMPLEMENTATION ISSUES**

If QRS decided to pursue a new Web-based business opportunity in either or both of the surplus disposition or demand chain improvement areas, it would have to face critical organizational issues. Many traditional companies had established separate “dot com” structures to pursue new electronic commerce initiatives. They set up a new organization with its own financial and governance structure. In some cases, for example, investments from the company and one or more venture capital firms financed stand-alone enterprises. The management of the stand-alone firm would also typically have an ownership stake (through stock options) in the new venture. In those cases the new venture would have its own board of directors. In other cases, firms pursued the new ventures internally, as a new venture group or product development effort by the existing product development organization.

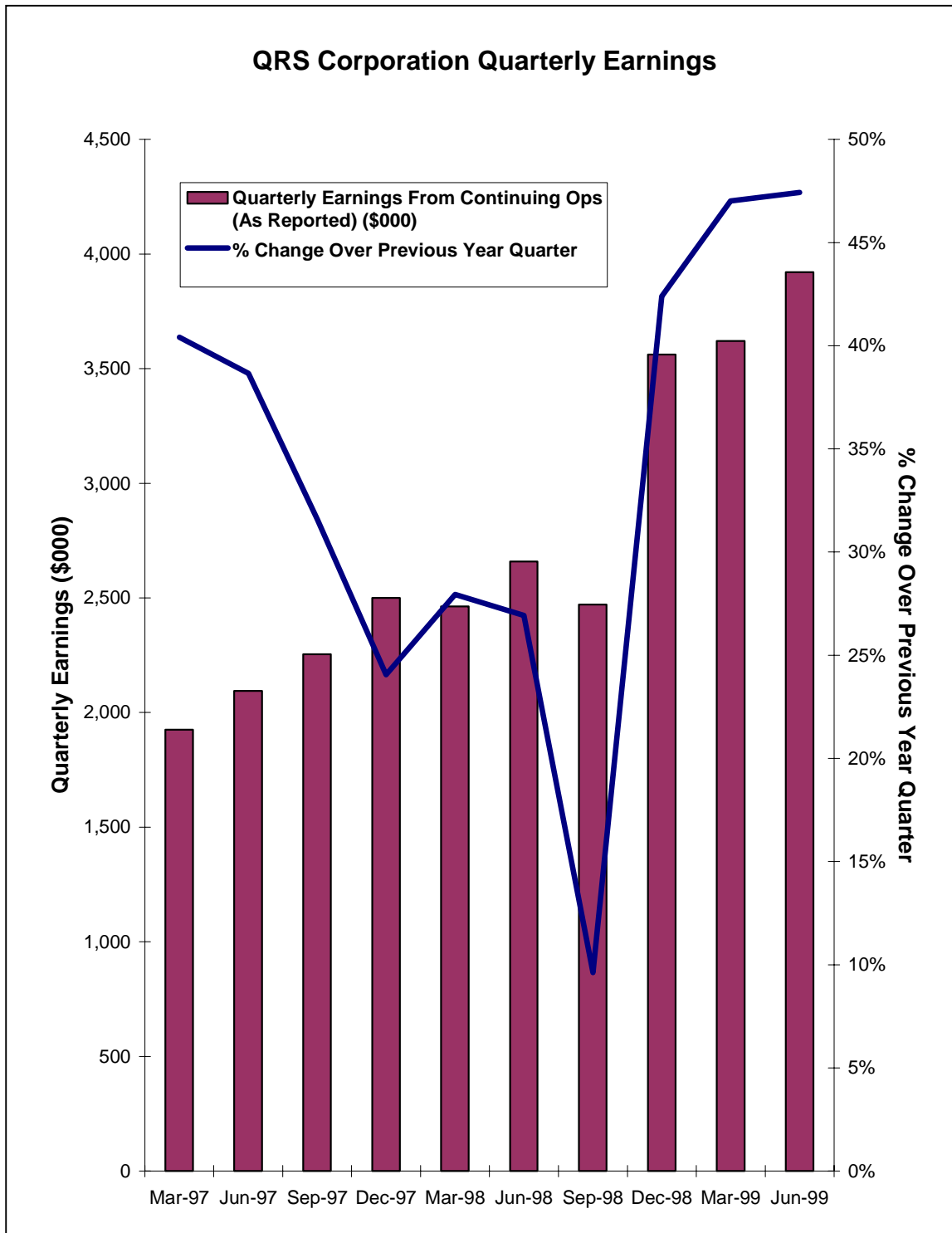
Whatever organizational structure QRS employed, it had to make certain implementation decisions. Given tremendous time-to-market pressure, a key issue would be how to design, develop, and launch a product quickly. It could retain a Web development firm to do that or use internal QRS resources. QRS also had to decide how to time the opportunity analysis and the product development. The more time spent researching the opportunity, the higher the chance of producing the right product, but the greater the risk of missing the window. QRS could hire a management consulting firm to help with the effort. Most of the leading management consulting firm would consider accepting such an engagement in exchange for stock or stock options rather than their usual fee-for-service basis. QRS would have to make these decisions in short order.

**EXHIBIT 1: QRS CORPORATION QUARTERLY REVENUES**



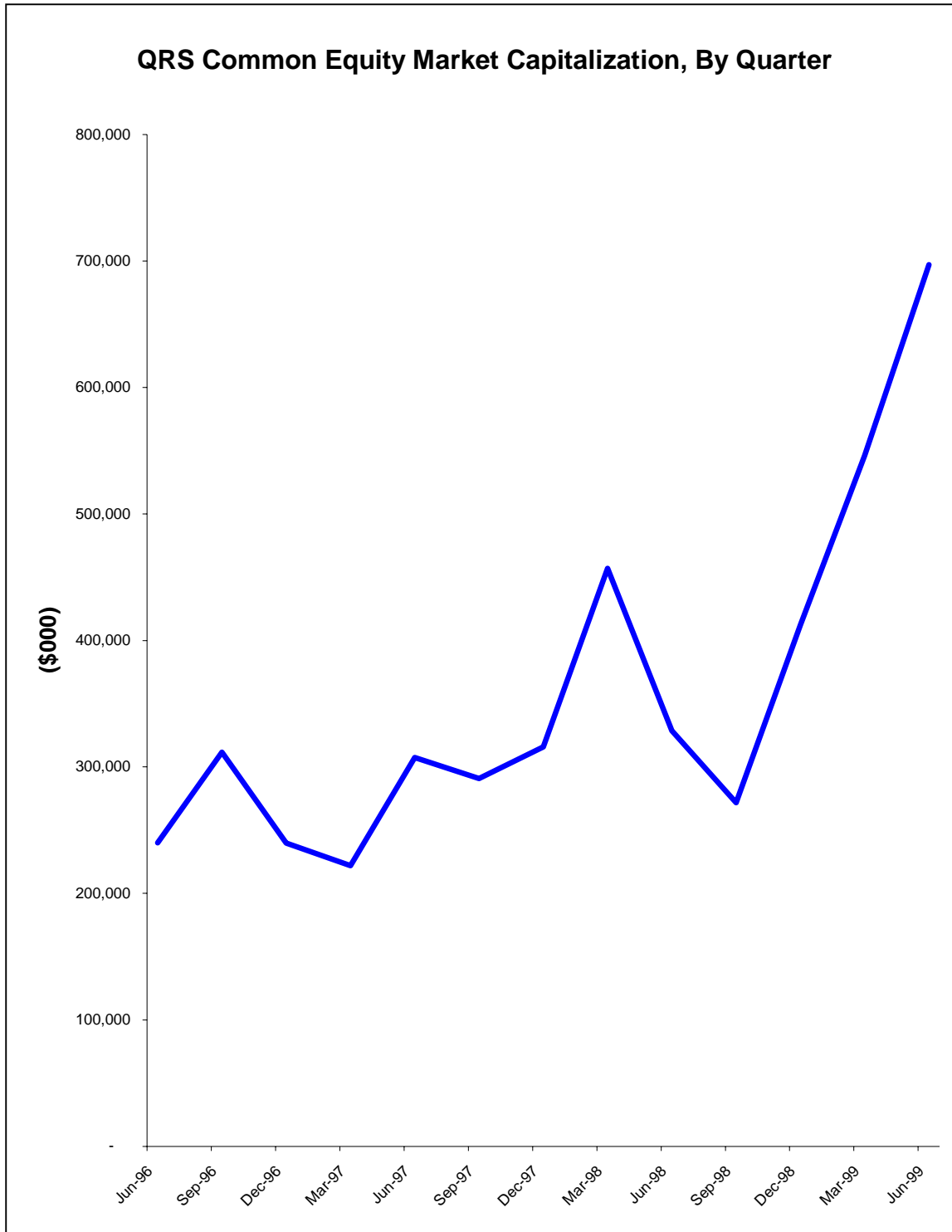
Source: QRS SEC filings.

**EXHIBIT 2: QRS CORPORATION QUARTERLY EARNINGS**



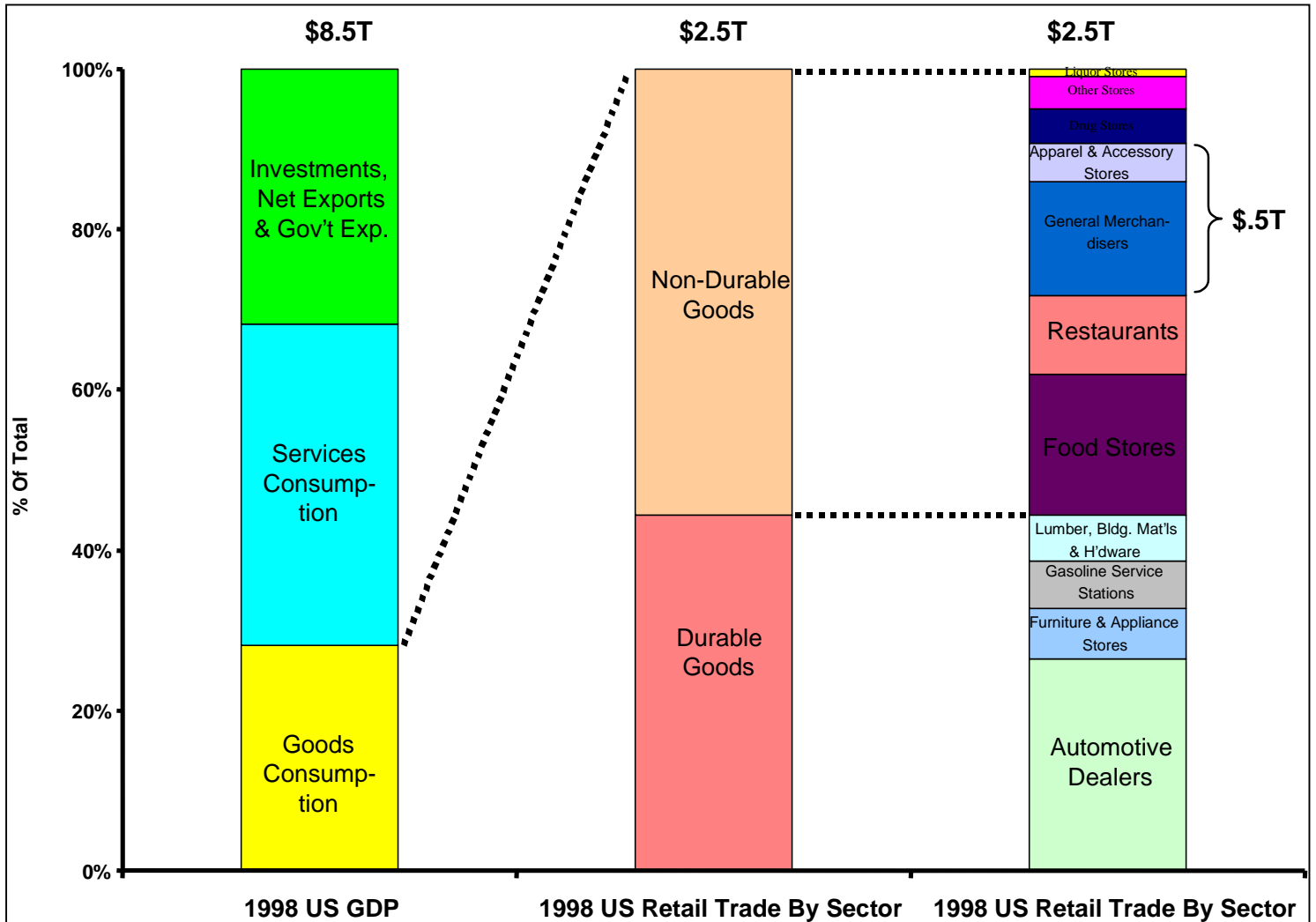
Source: QRS SEC filings.

**EXHIBIT 3: QRS CORPORATION MARKET CAPITALIZATION, BY QUARTER**



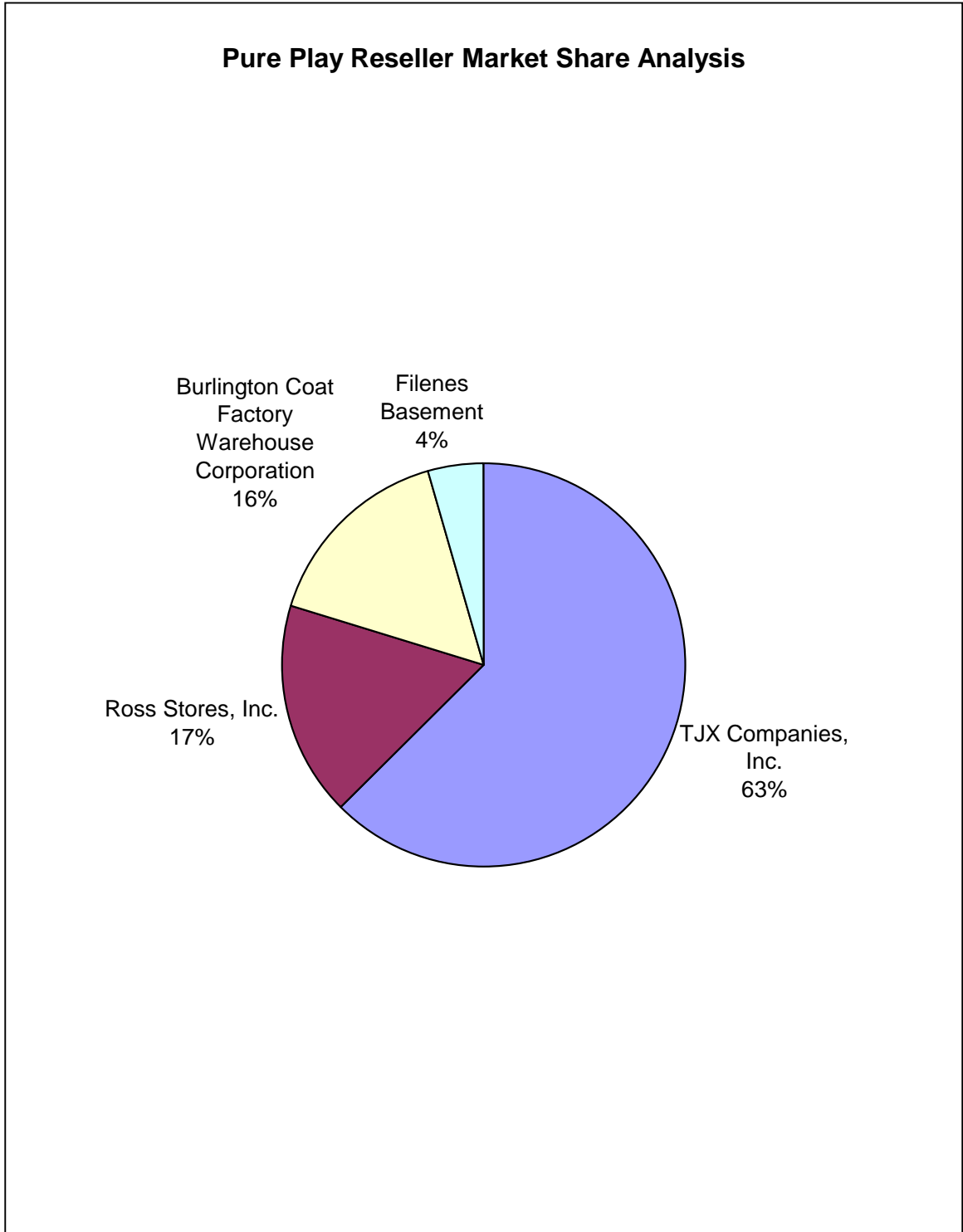
Source: Yahoo!Finance. Reproduced with permission.

**EXHIBIT 4: APPAREL & GENERAL MERCHANDISE RETAIL TRADE**



Source: QRS internal research.

**EXHIBIT 5: RESELLER MARKET SHARE ANALYSIS**



Source: QRS internal research.