HP and the LCD Industry

The need to bring stability, predictability, and order in the LCD market
to enhance value and convenience to the end consumer

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Introduction to Hewlett-Packard

Hewlett Packard is the industry's leading provider of global technology solutions who operates six business segments in over 130 countries. The company serves customers in enterprise, SMB, and consumer market segments and is #1 or #2 in most of the businesses it is in. In addition, Hewlett Packard is expected to reach revenues of $80 billion for FY 2004 and employs over 130,000 people.

HP Imaging and Printing Group (IPG) provides home and business imaging, printing, and publishing device and systems digital imaging products, printing supplies, and consulting services. Personal Systems Group (PSG) provides commercial personal computers (PCs), consumer PCs, notebooks, workstations, a range of hand-held computing devices, digital entertainment systems, calculators and other related accessories, software and services. Enterprise Systems Group (ESG) offers servers, storage and software solutions. HP Services (HPS) provides a portfolio of information technology services. HP Financial Services (HPFS) provides value-added financial lifecycle management services. Corporate Investments includes HP Laboratories and certain business incubation projects.

Hewlett-Packard Supply Chain & Procurement

HP is also the IT industry's largest supply chain which ships over 200 enterprise (excluding industry standard servers) products, 73,000 PCs, and 148,000 printers and many others everyday. The company manages a diverse set of supply chain pipelines which ranges from "high touch value chains" that is based on in-house manufacturing to "low touch value chains" which incorporates ODM and CM solutions.

Accordingly, HP also has the IT industry's largest materials-spend at approximately $43 billion. The company is the world's #1 or #2 buyer of memory, CPU, Microsoft windows, HDD, printer engines, logic chipsets, optical disk drives, LCD panels, and many more.

In a typical day, HP will procure 90,000 HDD, 134,000 Memory (256MB equivalent), and 1.4 million lbs of Plastic Resin.

Hewlett-Packard and LCD

From a pure unit based perspective, HP is one of the largest users of LCD panels. In recent years, HP has aggressively launched products and entered markets that are heavily visual centric and has drastically increased its purchase of LCD panels of all sizes and types.

With leading market positions in products that incorporate LCD panels, such as Notebook PCs, LCD Monitors for Desktop PCs, Handheld Computing Devices (PDA), Printers, Digital Cameras, and Personal Digital Printing Devices, HP has relationships with most LCD suppliers in the industry and is also the #1 or #2 customer in most of the top tiered LCD companies.

HP expects to increase its LCD purchases even more and enhance its position in the LCD supply base further as the company is successfully launching smart phones and is also expected to enter the LCD TV market later this year. In 2004, LCD will be the largest material spend category in HP procurement.

Hewlett Packard Customers and the LCD Market

While LCD is the largest dollar spend category in the company, it is also considered THE most volatile and disruptive commodity to manage in Hewlett Packard due to the nature of LCD and the industry. Since it is also a prominent part of the products that it is incorporated in, swings in LCD factors can bring big impacts to customer satisfaction, availability, product roadmaps, and costs. These all have effects on the long term customer behavior.

At this time, we would like to visit the three highly visible characteristics of the LCD market and how it impacts the end customer as well as the long term demand of related products. We would also like to touch on a few directional points that we are seeing in terms of technology and customer preferences.

The three characteristics we will visit here are (1) demand-supply volatility, (2) pricing volatility, and (3) roadmap divergence in the supply base. Of course, these characteristics are all interrelated and difficult to address each in isolation of the other two. However, for the benefit of simplicity, we will address them one by one.

Demand and Supply

This is probably the chief concern of any LCD management team. Over supply markets and shortage markets that has visible impact to the industry, due to their nature, all happens when least expected. It is rare to see shortages or over supply markets that are predicted six months ahead actually happen in devastating degrees because industry players try to take early corrective actions. However, when there are swings in market conditions suddenly, it does have immediate impacts on customer demand, supply, and orders that all "bull whips" through the value chain. Cyclicality is a well know and accepted fact of life in market driven commodities. However, the volatility amplification as one looks "upstream" in the industrial supply chain must be dealt with in thin margin businesses like PCs. The cyclical nature has effect on product demands (on alternative products as well such as LCD monitors vs. CRT or Notebooks vs.

Desktops) and the question is how can supply base work with its immediate customers, such as HP, to smooth out the volatility and make it transparent, as much as possible, to the end customer.

Pricing Volatility

Related to demand and supply, of course, is pricing volatility that accompanies the cycle. Much like memory, LCD prices fluctuate. However, when compared to memory, LCD has a much higher dollar value and is also the centerpiece of the products that it is incorporated in. Therefore, any changes in LCD have a much bigger impact on customer choices than other components. Swings in prices that noticeably impact the products drive behaviors on the customer, especially consumer channel partners who are managing a portfolio of products that they can sell alternatively, in what they purchase. Drastic increases in panel prices leave no choice but to increase final product prices that actually need to have steady price erosions to keep demand growth stable. Customers will push alternative products to meet customer requirements financially. On the other hand, companies like HP also have done their part to push prices down in over supply markets in concerns that, if not, our product costs will not be competitive.

Bottom line, large price swings have been the key driver in turning demand "on" or "off" and creating market dynamic shifts. For consumers and for OEMs like HP and for LCD companies, pricing volatility must be addressed in order to create steady and robust growth in the end products.

Roadmap Divergence

Pricing volatility also has impacts on the roadmap as well. As prices increase and impact the final product price, in attempt to ensure demand stays as stable as possible, companies like HP will look for lower cost solutions to minimize the end price increases. Such things as standard viewing angles vs. wide viewing angles or shift to lower brightness will cause development, marketing, and planning resource constraints as more products are being managed to keep up the original demand expectations. Competing sizes or specifications within the supply base also cause customers, such as HP, to choose one or the other with the risk of misreading the customer preference or working with all choices and, once again, causing management issues.

Hewlett Packard and the LCD Industry

The above mentioned characteristics and the desire to bring controls are easy to articulate but difficult to implement when considering the need for profitability, revenue, and maximizing production throughout the value chain.

However, there are things that companies like HP and LCD supply base can do together to at least bring some manageability and sanity to the dynamics.

One of the things that HP and suppliers can do and has been doing is to bring long term and strategic approaches to key relationships in order to eliminate the "opportunistic" behavior that takes place on both sides in the market today. By providing stable volumes that are in line with the market and suppliers providing stability in pricing and availability to worldwide customers like HP, both parties can minimize the volatility and fluctuations to the end customer.

Another thing that HP and the supply base can do together is to work on forward looking financial planning that reconciles market dynamics and what customers can tolerate when purchasing. HP has been a leading advocate of a principle called "Procurement Risk Management" that allows forward looking pricing agreements that considers the market dynamics. While not perfect, once again, it does bring some sanity to the picture.

One of the key breakthroughs in making all the volatility a little better is having supply chain organizations become more interactive with the channel rather than relying solely on the sales force for communication. With each additional step in the communication channel, the message loses it true impact and things are lost as it passes from one stop to the other. Having the channel involved, even indirectly but more so than today, information and market situations can be translated earlier and, thus, some hope for additional proactive measures.

In conclusion, the nature of the LCD market is what it is. However, through closer collaboration, longer term views, and new practices, we can bring stability, predictability, and value to the customer together.