

# Future Trend and Status of LCD OEM/ODM Operating Model

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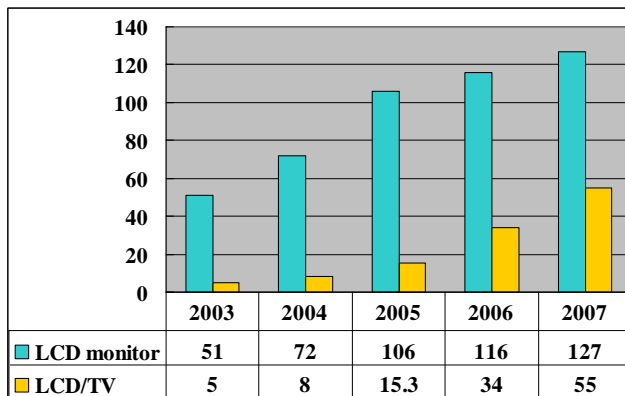
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**Abstract** — The industry of LCD monitor and LCD/TV production is complicate, so there are several OEM/ODM companies concentrated on technical and professional skills. Brand name company establishes its own brand name, sells its own product, and reflects market request. Therefore, the main duty of brand name company is on sales and marketing. This article explains the operating flow on LCD monitor and LCD/TV industry, operating relationship between brand name company and OEM/ODM, and advantage and disadvantage on different points. Furthermore, future trend of LCD monitor and LCD/TV can be reviewed in the article.

**Keywords** — OEM/ODM, LCD, LCD/TV, brand name company, integration

## Introduction

LCD (Liquid Crystal Display) monitor and LCD/TV are growing prosperously recently. FIGURE 1 is the market trend estimation on the shipping quantity, which indicates that growth rate of LCD monitor and LCD/TV is still raising from Year 2005 to Year 2007.



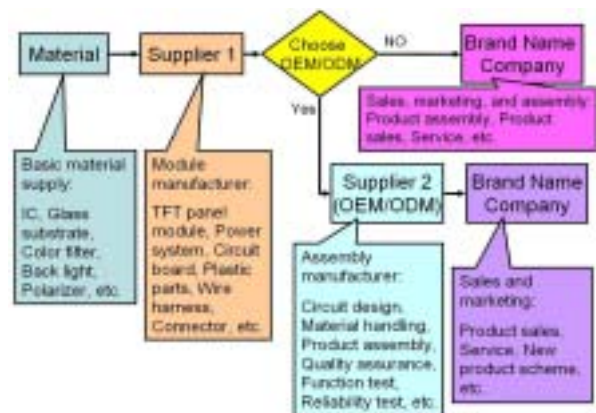
**FIGURE 1** — Estimated market shipping quantity on LCD monitor and LCD/TV[5][7] (unit: million pcs)

According to this estimation, brand name companies are trying to enhance their market share and explore their business. The other companies which related to this industry are also expanding and investigating their capital in order to promote their technologies and enhance their market share. Basically there are 2 ways to produce LCD monitor and LCD/TV. The first way is to produce by brand name company itself; the other way is brand name company

co-operate with OEM (Original Equipment Manufacturing)/ODM (Original Design Manufacturing) company. This article addresses the present and future trend of OEM/ODM on LCD monitor and LCD/TV makers.

## 1 LCD monitor and LCD/TV industry operating status

To visualize the future trend, present operating flow is the best way to realize what will be. FIGURE 2 is the LCD monitor and LCD/TV industry material operating flow chart. This figure describes 2 situations. The first situation is the brand name company co-operates with OEM/ODM company, and the other situation is brand name company co-operates without OEM/ODM company.



**FIGURE 2** — LCD monitor and LCD/TV industry material operating flow [8]

Basically the role of OEM/ODM is to assembly all components and parts as a set of unit, to test the complete LCD monitor and LCD/TV, and to ship final goods to brand name company. By the way, if brand name company has its own manufacturing ability, it can produce the product itself. For these 2 kinds of operating methods, the advantages and disadvantages are explained on TABLE 1.

In LCD industry, time and cost are the most important factors to let the companies survive. TABLE 1 indicates that saving the time is the advantage if brand name company co-operates without OEM/ODM. However, brand name company needs to suffer the OEM/ODM's entire work loading. By the way, if brand name company co-operates with OEM/ODM, brand name company will not take care of several responsibility, including material handling, quality, and so on. At this situation, the disadvantages will appear, like schedule may delay, lead-time may extend, some communication problems may appear, and so on.

**Table 1** — Comparison between brand name company co-operate with and without OEM/ODM company

	Content
Brand name company co-operate with OEM/ODM	<p>Advantage: Brand name company can only focus on sale and marketing. OEM/ODM can focus on manufacturing and all related production works.</p> <p>Disadvantage: Lead time will be extended. Schedule of brand name company will not be easy to control if any delay. Need more communication to prevent misunderstanding.</p>
Brand name company co-operate without OEM/ODM	<p>Advantage: Lead time will be shorter. Schedule will be easy to control. Brand name company will well know the processes which can enhance its own ability.</p> <p>Disadvantage: Brand name company needs to spend more cost to maintain the production factory.</p>

### 3. OEM/ODM operating status

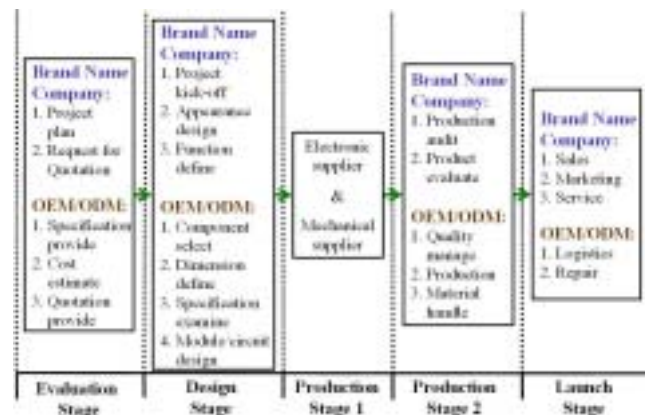
If the brand name company decided to co-operate with OEM/ODM, there are many details and responsibilities which brand name company and OEM/ODM need to share and proceed. This section introduces the operating flow chart and comparison between different types of operating styles.

#### 3.1 OEM/ODM process and flow

FIGURE 3 illustrates the operating flow and work

content on brand name company and the OEM/ODM company of LCD monitor and LCD/TV in different stages. Brand name company basically is to plan for a project, and then survey for the quotation and co-operating partner first. After deciding the co-operating OEM/ODM company, brand name company will propose its project and will be a guider and an auditor to ensure the final goods following with original project. After product launched, brand name company will deal with product sales, surveys for market request, and provide the related service. When OEM/ODM company receiving the quotation request from brand name company, OEM/ODM company will evaluate the project is acceptable or not, and then response the quotation in the beginning. After received and confirmed the project, OEM/ODM will make sure the brand name company's project goes smooth from beginning to the end and to make sure product in good quality before shipping out. OEM/ODM company also needs to build up a RMA (Return Merchandise Authorization) system, so that product will be well repaired after launched.

The advantage is OEM/ODM will only deal with product production. However, it may be the disadvantage. If the brand name company changed the OEM/ODM co-operator or the product type, OEM/ODM would not receive any order and would terminate the company/factory.



**FIGURE 3** — Operating flow and content on brand name company and LCD monitor and LCD/TV OEM/ODM company

#### 3.2 Comparison

Japan, Korea, and the Taiwan supply most of the TFT (Thin-Film Transistor) modules around the world. Following is some exemplified comparisons on famous companies at each country.

##### (1) Taiwan

There are several TFT panel module suppliers in Taiwan. Referring to FIGURE 2 and FIGURE 3, most of the Taiwanese companies are individual company, which means some of them belong to OEM/ODM companies, some of

them are material manufacturers, and some of them are electronic or mechanical suppliers. During these TFT panel module providers, only one company has its own brand name of LCD monitor and LCD/TV. The others only produce TFT panel module, so they belong to one of the suppliers of LCD monitor and LCD/TV[1][2].

(2) Korea

In Korea, the biggest 2 TFT panel module suppliers are LG-Philips and Samsung. These 2 companies provide the TFT panel module and produce their own brand name of LCD monitor and LCD/TV. According to FIGURE 2 and FIGURE 3, since Samsung and LG-Philips have integrated the field from source to the marketing, they are material provider, component supplier, LCD monitor and LCD/TV manufacturer, and brand name company. Therefore, Samsung and LG-Philips suffer the advantages and disadvantages[1][2].

(3) Japan

Sharp is the biggest TFT panel module supplier in Japan and has its own brand name of LCD monitor and LCD/TV. Sharp integrated some of its material flow, so it is also a multi-role company, including material supplier, component supplier, LCD monitor and LCD/TV manufacturer, and brand name company. Due to raising the market share, some of Sharp products have requested other OEM/ODM manufacturers to produce. Thus, this company has another kind of role which is the brand name company co-operated with OEM/ODM manufacturer. This strategy also is widely used on several brand name companies[1][2].

**4 OEM/ODM of LCD monitor and LCD/TV**

Basically the OEM/ODM of LCD monitor and LCD/TV can separate to 2 types. The first type is the OEM/ODM company has its own brand name. The other type of OEM/ODM is only OEM/ODM manufacturer. The brand name addressed in this paragraph is the brand name created by OEM/ODM company itself which is different to previous paragraphs. Furthermore, OEM/ODM company which has its own brand name not only produces its own product, but also produces other brand name company's product.

Except marketing design, the scope of these 2 types of OEM/ODMs is almost the same. TABLE 2 addresses the advantages and disadvantages on the OEM/ODM with and without own brand name.

**TABLE 2** — The advantage and disadvantage comparison table between OEM/ODM with and without own brand name

	Content
OEM/ODM with own brand name company	<p>Advantage: Easy to reflect the market's and end user's request and information. Easy to raise the reputation of brand name if the product is fantastic.</p> <p>Disadvantage: In case production loading is full, the conflict of production schedule between itself and other customers will appear. Need to spend more expenses and force to deal with marketing work.</p>
OEM/ODM without own brand name company	<p>Advantage: All brand name companies will be treated as the same base. OEM/ODM can only concentrate on technical field and will not involve on sale and marketing. Flexible on changing different production type.</p> <p>Disadvantage: Need to suffer the risk if no order from brand name company. Profit per unit is not so much, so need to receive a quantity of order.</p>

**5 Future trend**

To enhance the competitive ability of LCD monitor and LCD/TV OEM/ODMs, following is some suggestions for the future.

(A) Develop diversity product

The consumer type changes very fast. Only a kind of product is unable to satisfy with market request. If OEM/ODM can provide different kind of LCD monitor and LCD/TV, customer can have more selections on purchasing based on budget consideration. For instant, the standard product is LCD monitor only contented with analog signal input. The second level is dual (analog and DVI) signal inputs. The upper level is dual signal input contenting plus RF (Radio Frequency) input. The final level product contents all kind of signal inputs.

The other way is to keep the appearance the same, but the display size is different. For instant, the appearance is the same, but the display size has 15, 17, and 19 inch. This method has already implemented on several OEM/ODMs.

(B) Integrate related industries

Integration can classify to horizontal and vertical. In vertical integration, it can be divided to upward and downward integration.

(i) Horizontal integration

Horizontal integration is to have direct co-operation or

merge with the same or simulate type of companies in order to enlarge the capital and scope. It can share the risk and increase market share.

In the other hand, horizontal integration can be explained to strategically co-operate with related companies, like TFT panel module supplier co-operate with mobile phone manufacturer, or LCD monitor OEM/ODM company co-operate with brand name company. It can stabilize the supply and market request. The other advantage is the both company can share the experience on technology and sales.

(ii) Upward vertical integration

Each company has its own R&D team. However, due to responsibility, the R&D team at different companies may work on the same design and research. If R&D team at different companies can combine or integrate, it will save a lot of time and cost. This is difficult because of commercial confidential, but a lot of helps will reflect in the future.

The other upward vertical integration is OEM/ODM can use the same series of component. Since the component compatibility is a serious problem on electronic product, if the same series components are used on LCD monitor and LCD/TV, this issue can be well controlled. However, it will cause another problem which is monopolization.

(iii) Downward vertical integration

Although OEM/ODM will not directly face to the end user and will not take charge on marketing, it is still necessary to reflect and to know the information from the end user. Thus, if OEM/ODM can have its own marketing team, it will help OEM/ODM to early know and implement the end user or marketing voice.

(C) Stabilize the source of key components/parts

Material handling is an important issue in many fields since source shortage will cause the schedule delay and money lose. OEM/ODM companies of LCD monitor and LCD/TV also face to this problem. That is because the whole set of LCD monitor or LCD/TV cannot be completed even lacking a screw only. Thus, OEM/ODM companies pay a lot of attention on handling material arrived time and ship out schedule. To ensure the source is well controlled, many methods can be preceded.

(i) Enhance the quality ability of suppliers

Sometimes the suppliers delay the delivery time is because of the quality issue. Thus, if OEM/ODM company can support or share required technology with related suppliers, the quality issue will be solved.

(ii) Have well material controlling system

From receiving order to shipping out final goods, usually the time will take about 8 to 10 weeks. Divided on this 8 to 10 weeks, 6 to 8 weeks is spent on material preparing and the other time is for the production and test. If

the material preparing time takes more than expected, the schedule will be postponed. To ensure the materials are well controlled, establish a smooth information forwarded and received system is necessary. Furthermore, an accurate forecast or estimation of material demand is the other way which will support on solving this issue.

(iii) Have substitute or second source system

Substitute and second source is very useful on solving urgent case. If suppliers and OEM/ODM companies can establish the substitute or second source during R&D stage, when the material request is urgent, try-run time can be saved.

(D) Establish own brand name

Advertisement is the first insight to the end user. If the brand image is famous and strong enough, the end user will have the intention to purchase the product. Thus, for the OEM/ODM company, establishing own brand name not only can increase market share, but also can stabilize the production request and raise company reputation.

Maintaining a brand name is difficult since it requests marketing expenses, marketing strategies, and marketing human resource. The final result may not reflect to the invested force and money. That is the reason why most of the OEM/ODM companies hesitate to build their own brand names. Because several OEM/ODMs have successfully established their own brand name, these examples can help other OEM/ODM companies to think about and evaluate. For instance in Taiwan, BenQ is a successful example which has its own brand name and also is still an OEM/ODM company.

## 6 Conclusion

IT (Information Technology) industry changes very fast and LCD monitor and LCD/TV belong to IT industry. All of the companies related to this field are trying to figure out the best way to enlarge their market share and enhance their ability since the estimation indicated that the market request on LCD monitor and LCD/TV is still raising from 2005 to 2007.

For the LCD monitors and LCD/TV products, they are produced by OEM/ODM company or brand name company. Since OEM/ODM company does not involve sales and marketing, OEM/ODM company only focuses on production and related works to show its professional and technical ability. Brand name company takes charge on final goods sales and marketing if brand name company does not have its own production factory. Thus, OEM/ODM and brand name company share the work, and suffer advantages and disadvantages. Hence, OEM/ODM and brand name company come out its own way to explore its business.

## 26.5 / P. C. Pan

Future trend is previewed based on present status. Development, integration, material stabilization, and brand name establishing are the suggestions to let companies consider about future trend. Hope in the near future all the customers can have cheaper and better quality of LCD monitor and LCD/TV.

### Acknowledgments

Many thanks for the people who have been contributed their knowledge and information, so that this paper can be down.

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