

# The predicting of dominant design in MP3 player

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## Abstract

This research has the purpose that forecasts MP3 design which can dominates the market by trend analysis. For the purpose of this study, we practiced trend analysis of MP3 player. We decided on design factors and levels of the factors after collecting 227 MP3 products released from 2001 from 2007 now, and practiced trend analysis used a SPSS program. Then, we identified a design trend of MP3 player. As the result of trend analysis of MP3 products in this research, it is not clearly show up regular trend. Except the Apple, there are not companies which are all in MP3 player market. In conclusion, future competition will be decided by price in comparison with function, compatibility to various contents, extension of devices related to MP3 and product design based on miniaturization, high-tech function, and mass storage. Especially, MP3 player will have a great influence on design because it has great the degree of freedom and short product life cycle by the nature of product.

**Keywords: MP3 player, trend analysis, dominant design**

## **1. Introduction**

iPod have 26% portion of market share for worldwide MP3 Player market in 2005, also iPod have 51% portion for total revenue of Apple. Occupying 73% of US market, 72% of HDD type products for global market, iPod lead MP3 player market. (Lee, Eun-Min(01-SEP, 2006), Current Market Trend of MP3 player, IT Strategy, p.30.)

But iTunes operates limited service only in North America, Japan and Europe. So in other countries, iPod have comparative lower market share and other small and medium companies have market shares. Even in iTunes service area, debate on unfair trade of exclusive DRM continues, also there are antipathies due to worry for iPod's market monopoly. Like such, because areas of lower market share of iPod exist and anti-iPod areas exists, major global IT enterprise, MS, Samsung Electronics, Matsushita Electronics, Nokia are entering MP3 marker after 2003, are doing their best R&D and market making.

Because popularization and technology standard for MP3 player already completed, taking the lead in compatibility to various contents, extension of devices related to MP3

and product design based on miniaturization, high-tech function, and mass storage is major factor of dominating markets. But nowadays price in comparison with function is making almost equal. And for the aspect on compatibility to various contents and device market related to MP3, enterprises are executing joining hands strategies.

So, the most important thing is to issue the design which dominates markets in relation with design based on miniaturization, high-tech function and mass storage. (Electronic parts institute, JUN-2006, market trend of MP3 player)

But this is possible only when forecasting dominant design.

This research has the purpose that forecasts MP3 design which can dominates the market by trend analysis.

For the purpose of this study

1-1. We considered about MP3 player, MP3 player industry and trend analysis

1-2. As an empirical research, we practiced trend analysis of MP3 player.

We decided on design factors and levels of the factors after collecting 227 MP3

products released from 2001 from 2007 now, and practiced trend analysis used a SPSS program. Then, we identified a design trend of MP3 player.

1-3. We inferred the design that can be dominant by the future mayor through the analysis results, and concluded.

As the scope of our study, we used MP3 players' pictures that could search in the Internet and we exclude the first MP3 players made in 1997-1999 year.

This study can become a base of scientific study as present the theoretical basis that can present future direction of a design, and can be used momentarily to working-level officials taking charge of a design as important competitive elements.

## **2. MP3 player and MP3 player industry**

### **2-1. Definition of MP3 Player**

### **2-2. Structure of MP3 Player**

### **2-3. Type of MP3 Player**

### **2-4. The present situation of major companies in domestic and foreign**

### **2-5. Analysis of MP3 products in domestic and foreign**

## 2-6. The present situation and of MP3 player MP3

### 3. Trend Analysis of MP3 Player

#### 3-1. Study of Trend Analysis

This chapter will analyze how each product design changes from the past to the present, and will measure design attribute material to set up the future design direction and will execute the trend analysis.

This trend analysis will recognize the simple trend from the past to the present and will explore the extended product design direction which will emerge on recent future in the boundary of existing products.

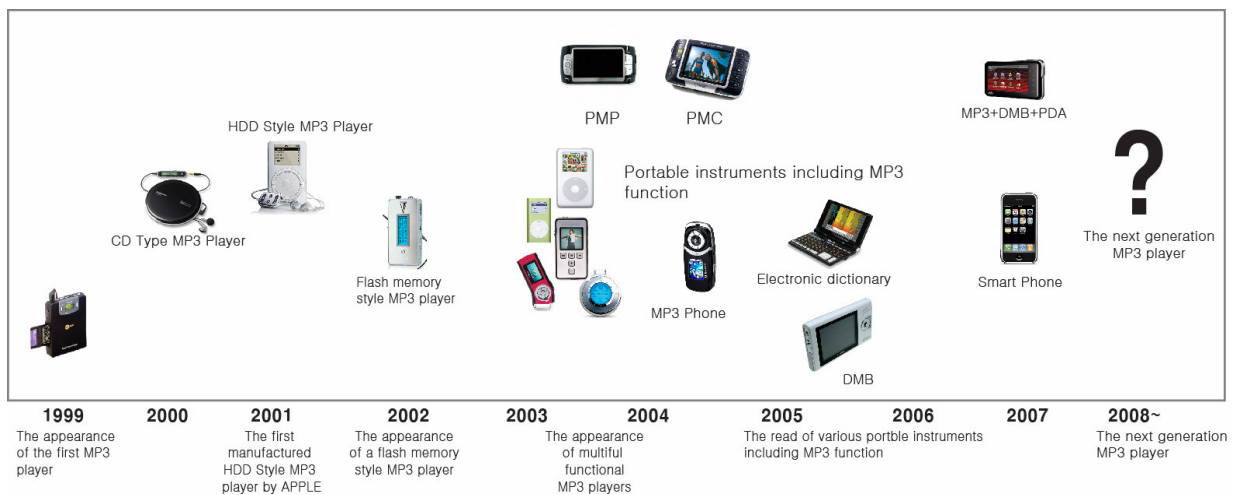


Figure 1. MP3 players' trend

### 3-2. Trend Analysis of MP3 Player

#### 3-2-1. Subject of trend analysis

We extracted 227 MP3 players which were released from 2001 to 2007, June.



Figure 2. Objects for trend analysis

#### 3-2-2. Design factors and dummy variables of level decision

- We extracted each design factors structured MP3 player, decided the level of each design factors and made them dummy variables.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q				
1	연도	브랜드	모델	형태	사각형	삼각형	원형	기하학	액정	없음	단색	컬러	내장 배터리	AA건전지	AAA건전지	타입	하드	플래시	동영상	有	無
2																					
3	2001	코원시스템	iAUDIO CW100	2	1	1	1	2	1	1	1	1	2	1	1	2	1	2	1	2	
4		Apple	1세대 IPOD	2	1	1	1	1	2	1	2	1	2	1	1	2	1	2	1	2	
5		MPIO	DMB	2	1	1	1	1	2	1	1	2	1	2	1	1	2	1	2	1	2
6		MPIO	DME	2	1	1	1	1	2	1	1	1	1	2	1	1	2	1	2	1	2
7		MPIO	DMK	1	1	2	1	1	2	1	2	1	1	1	2	1	2	1	2	1	2
8		현원	M-ANY GEMBO	2	1	1	1	2	1	1	1	1	1	2	1	2	1	2	1	2	1
9	2002	현원	dualplay DAH-2	2	1	1	1	2	1	1	2	1	1	1	1	2	1	2	1	2	1
10		LG전자	MF-PD365T2	2	1	1	1	1	2	1	1	1	1	2	1	1	2	1	2	1	2
11		Apple	2세대 IPOD	2	1	1	1	1	2	1	1	2	1	1	1	1	2	1	2	1	2
12		MPIO	DMG	2	1	1	1	1	2	1	1	2	1	2	1	1	2	1	2	1	2
13		MPIO	FD-100	2	1	1	1	1	2	1	1	1	2	1	1	2	1	2	1	2	1
14		MPIO	FL-100	2	1	1	1	1	2	1	1	1	1	2	1	1	2	1	2	1	2
15		삼성 YEPP	YP-300s	2	1	1	1	1	2	1	1	1	1	2	1	1	2	1	2	1	2
16		삼성 YEPP	YP-20s	1	1	1	2	1	2	1	1	1	1	2	1	1	2	1	2	1	2
17		삼성 YEPP	YP-30sh	1	1	1	2	1	2	1	1	1	1	2	1	1	2	1	2	1	2
18		삼성 YEPP	YP-700h	2	1	1	1	1	2	1	1	1	1	2	1	1	2	1	2	1	2
19	2003	LG전자	MF-PD390T2	2	1	1	1	1	2	1	1	1	1	2	1	1	2	1	2	1	2
20		LG전자	MF-PE500N6	2	1	1	1	1	2	1	1	1	1	2	1	1	2	1	2	1	2
21		LG전자	MF-FD200FS	2	1	1	1	1	2	1	1	1	1	2	1	1	2	1	2	1	2

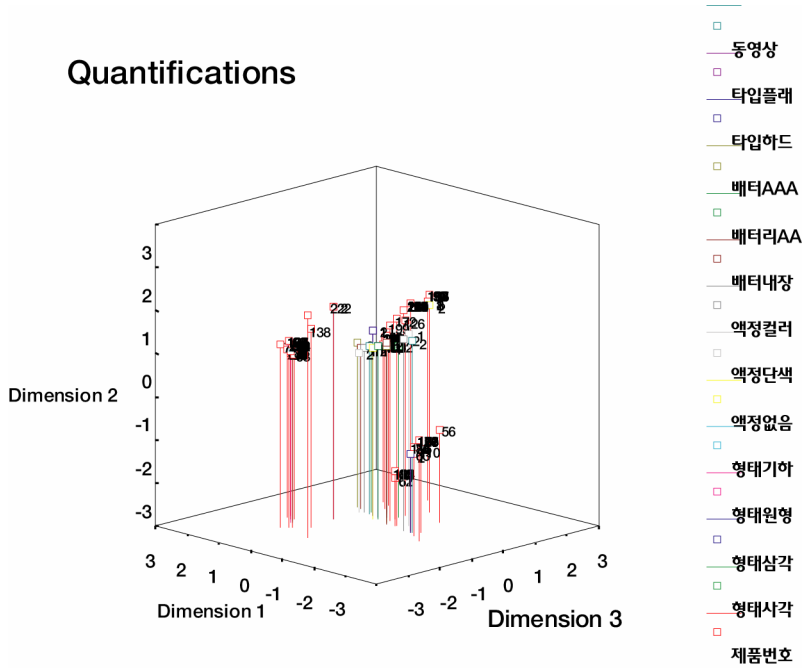
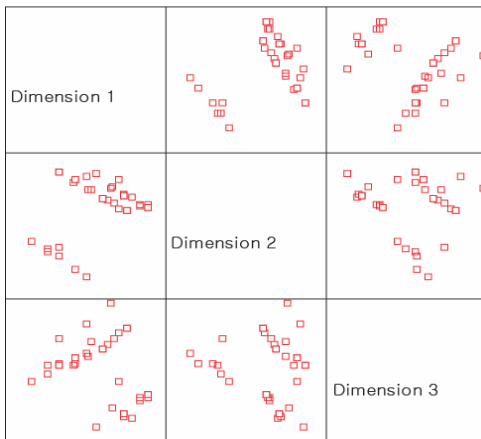


Figure 3. 3 dimension of analysis result

### 3-2-3. Method of Analysis

- The homogeneous analysis on SPSS program

2000-2007년



Cases weighted by number of objects.

Figure 4. 2 dimension of analysis result

### 3-2-4. Result



Figure 5. trend analysis result on dimension 1

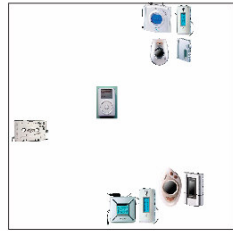
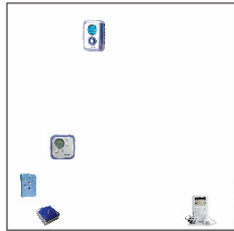


Dimension 2  
2001

2002

2003

2004

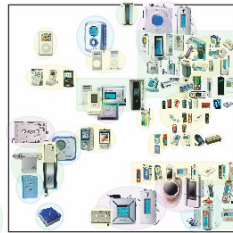
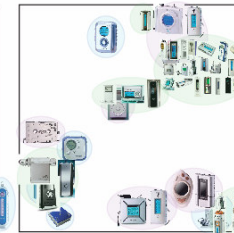
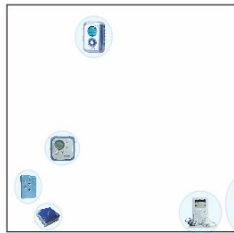


2001

2001-2002

2001-2003

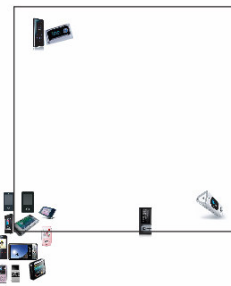
2001-2004



2005

2006

2007



2001-2005

2001-2006

2001-2007



Figure 6. trend analysis result on dimension 2

dimension 3

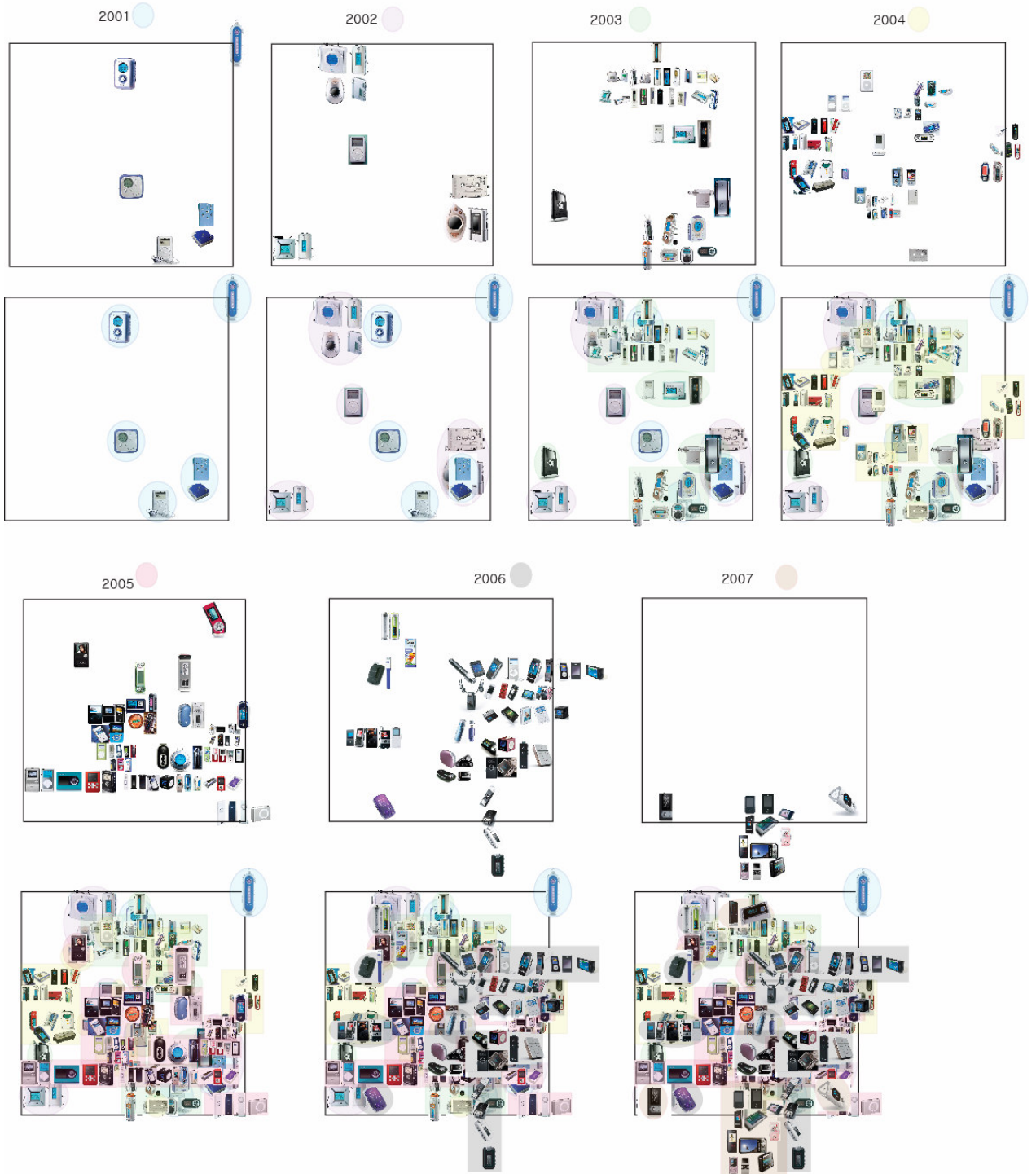


Figure 7. trend analysis result on dimension 3

As the result of trend analysis of MP3 products in this research, it is not clearly show up regular trend. Except the Apple, there are not companies which are all in MP3 player market. And, it seems to be under a trend toward a passing vogue because MP3 player companies are most of are small and medium enterprises so there are not a well-organized their C.I (Corporate identity) and design management. And it seems that the Apple leads MP3 player design in the world. Therefore, it is still too early to forecast a dominant design. Specially, it is difficult to forecast dominant design because MP3 player is not so much a technology-driven product as a design-driven product. So it is possible to forecast it in the structure of large enterprises.

As taking the situation into consideration, we faintly forecasted the trend of MP3 player.

- PMP as the next generation MP3 player needs technological development and new product design development.
- Existing MP3 player needs to supplement MP3 functions and to develop a new design.
- It needs to consider as divided into Flash-based MP3 player and HDD-based MP3 player.

In the concrete,

The results of trend analysis of 227 MP3 players which were released from 2001 to 2007 are as follows.

- Whole body form was developed from clued square, round and etc. to organic square used square round edge passing through round square and volume square.
- The surface treatment of MP3 player was highly developed.
- LCD was developed from monochromic LCD to colorful LCD.
- Battery style was developed from external to internal.
- Whole body color was developed from a cold color to various colorful colors.

But recently it has changed to gray color.

### **3-5. Implication and future study**

Future competition of MP3 player industry will be organized to the structure of global large enterprises and will be more competitive than before. Therefore, future competition will be decided by price in comparison with function, compatibility to various contents, extension of devices related to MP3 and product design based on miniaturization, high-tech function, and mass storage. Especially, MP3 player will have

a great influence on design because it has great the degree of freedom and short product life cycle by the nature of product.

#### **4. Conclusion**

We know that MP3 player market enters upon a growth period. The Apple with the iPod series has led MP3 player market so far, but we consider that intense real competition of MP3 player is now.

#### **REFERENCES:**

- Lee,Eun-Min(01-SEP, 2006), Current Market Trend of MP3 player, IT Strategy, p.30.
- Electronic parts institute, JUN-2006, market trend of MP3 player