The Hong Kong Polytechnic University

School of Design

A STUDY OF PRODUCT IDENTITY - ITS PRACTICE IN CHINESE MANUFACTURERS

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A thesis submitted in partial fulfilment of the requirements for the Degree of Master of Philosophy.

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CERTIFICATE OF ORIGINALITY

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Abstract

Driven by the growth of economy, Chinese manufacturers are seeking to create more value through original design. Product identity has emerged as a significant strategy for product design and development in terms of branding.

This thesis begins by offering an overview of the current Chinese product design and analyses the major difficulties that are widely perceived. While the experience of more developed economies is used for comparison, it is shown that there exist many issues that are linked to the Chinese cultural and historical situation, as well as to the circumstances of rapid economic growth, where there is unmet demand for skilled and experienced designers. The utility of clearly defining product identity in Chinese settings is suggested.

Then it turns to define the nature of product identity and sets it in relation to various corporate strategies for product development as seen from the viewpoints of academic researchers and practitioners. Product identity development strategy is described in relation to different market positions – dependent, traditional, responsive and pioneering. Product identity life cycle is used to understand how product identity is established, develops, matures, (or declines) and how it is a matter to which innovation can be applied.

Case studies form the core of this thesis and it is from these that an understanding of the Chinese situation has been elaborated. Through these, it is asserted that product identity as practiced in China can also be seen to occur in

stages that are related to corporate development and product development strategy. Stages of product identity in Chinese manufacturing are identified through an analysis of recent strategies undertaken by mobile phone manufacturers. This group of case studies also reveal that a ‘star product’ is often the most effective and best understood way for Chinese manufacturers shift to a higher PI stage.

Another further set of case studies offer insights about the ways in which PI is used to develop different kinds of products (ranging from consumer goods to capital goods) in relation to different markets (domestic and global). Three detailed case studies are used to show how product identity is initially built, then maintained and developed, and sometimes turn to for innovations. These case studies also demonstrate how it is created through the interactions of managers, internal design departments and external consultants. In the course of these discussions, an integrated PI development approach is proposed and further discussion is offered regarding the character for PI’s in particular contexts.

This thesis concludes with a discussion of directions in which product identity could evolve so as to provide greater value to Chinese manufacturers.

Key words:

Product Identity (PI), Corporate Communication, Corporate Identity, Brand Identity, Branding, Design Management, Brand Management, Chinese manufacturer, Chinese mobile phone industry.

Publications arising from the thesis

Chen Jie and Eric Wear. “Optimizing Design Management in the Product Development Process in Chinese Manufacturing”. *International Conference on Innovation by Brand and Design Management, Design Management Institute. Soul, 11-13 Nov, 2004.*

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Chapter 1

Introduction

1.1 Problem Statement

1.1.1 From OEM to ODM, from local to global – a rising concern of product design in Chinese manufacturers

Great changes have been taken place in China since it began its economic reform and opening. Over last two decades[1], the opening policy has helped to attract huge investments into China. The booming of mass production has seen as one of the most significant achievements in terms of China's economy growth. With the label of "Made in China" all over the world, China is now regarded as a world manufacturing giant (Rob Curedale and IDSA, 2003).

Most of the Chinese manufacturers are Original Equipment Manufacturers – OEMs, which having advantages on cheaper labour and low-cost raw materials (and this situation is likely to persist into the foreseeable future), producing basic products required from others (mostly from foreign countries). As this OEM model has been practised for over two decades, Chinese manufacturers are getting mature. They are now thinking of a way for changes, for improvements, and for more profitable business.

[1] China began its economic reform and opening since 1978, proposed by China's formal leader Chairman Deng Xiaoping. Over two decades' development, China's economy has seen the significant growth and China now can play an important role in the world stage. It is regarded as the most significant event in China. Information source from the official website of China's Central Government. http://www.gov.cn/

On the other hand, the growth of China's economy, especially, the last ten years has seen sustained growth (average GDP growth 9.8% annually[2]), also provide a huge growing export market for mass production.

Leveraging their market knowledge and experience in logistics and production, Chinese OEMs now have sufficient resources to develop their own products, which leading them to full-scale Original Design Manufacturer (ODM) production. Moreover, having gained strength in their huge domestic market, some Chinese manufacturers are at tempting to extend their products into global, and are working to build global awareness and reputation. In addition, after China's entry into the World Trade Organization (WTO) in 2001, the dynamics of this populous country have altered, both socially and financially. The trading arrangement has changed the competitive outlook and the prospects for numerous industrial activities in the Asia/Pacific region as well as globally. The desire to operate as worldwide, international companies is an increasingly common aspiration.

Execution is critical in this process; apart from acquiring the mode of production from business partners and competitors, investment in design is now crucial. One consequence of this is that the product design is given increased attention.

[2] According to the reports released by National Bureau of Statistics of China, from year 1993 to year 2004, the GDP growth rate are 14.0%, 13.1%, 10.9%, 10.0%, 9.3%, 7.8%, 7.6%, 8.4%, 9.1%, 10.0% and 10.1% respectively. Information source from the official website of National Bureau of Statistics of China, http://www.stats.gov.cn/tjgb/

1.1.2 Chinese manufacturers are seeking a significant approach to improve product design in terms of branding – product identity (PI) could be one of the effective solutions.

Another tend seen a hot topic of branding in China. As Chinese manufacturing plays an increasingly important role in the global economy, the desire to have their own brands is growing. However, while Chinese production capacity and technical quality has increased, design is still largely behind the Western world and other developed countries in Asia. Part of the difficulty is that China lacks a large and experienced pool of skilled design professionals. As mentioned, this seems even more urgent since China entered World Trade Organisation (WTO) on 11th Dec. 2001, and its exposure to global competition was given greater clarity.

Another emergent problem comes with the sheer growth of Chinese manufacturers. As Chinese manufacturers expand, they often expand product categories and product lines, establish new brands, or begin to collaborate with international leaders (and even purchase them). These decisions lead to a situation in which there is a vast variety of products being produced and sold, and much of the time this is chaotic for Chinese manufacturers in respect to production and management. They then have to seek to effectively reduce this chaos and establish stable growth and systematic management practices.

Attention to product identity (PI) has emerged in this circumstance. Through the origin of PI was in developed economies, it seems to hold the promise of providing an effective and significant method for product design in

China. It also seems to accommodate Chinese culture and thinking methods, and this may also be one reason why Chinese manufacturers appreciate it.

More and more Chinese manufacturers and design firms are investing in PI research and practice. However, to distinguishing what is PI is crucial. Because PI has seldom been given detailed discussion in the academic field, there is no clear formal definition. With origins in practice, PI has been discussed in various ways by designers, but often without a shared framework or set of terms. (This thesis is also intended to address this to some extent.)

1.2 Research Objectives

In this research, I try to accomplish the following:

1.2.1 Main Objectives

- To study PI's practice in Chinese manufacturers.
- To provide an integrated product identity development approach in respect to Chinese manufacturing in particular.

1.2.2 Sub-objectives

a) To identify a general understanding of product identity, including of its relation to corporate philosophy, corporate culture, corporate identity, brand identity and visual identity.

b) To clarify the position of PI in product development process.

c) To clarify the position of PI in terms of branding.

d) To study PI development and evolution in Chinese manufacturers.

e) To explore more PI's practice in contemporary China---- product identity strategies and stages in China.

1.3 Research Methodology

Case study research is particularly useful in areas where there is a lack of sufficient previous literature or empirical evidence. Theory can be built on a base of practical case studies (Balmer, 1998; Gill and Johnson, 1991, pp.119). Because product identity is considered as a more practise term than an academic term, and there is no established theory of it, therefore, this research is largely based on qualitative case studies. Case studies are essential and significant to develop an abundant understanding of product identity and its practice in this research. Information sources are including of in-depth interviews, first-hand and also some second-hand case studies. Some crucial case studies were tracked over years through several evolutive interviews to analyze how PI has been studied, developed and practised in Chinese manufacturers.

In addition, literature review is seen an appropriate approach in identity research to help to have a deeper exploration into concepts. Through literature review, I try to explain product identity's origin, to clarify its definition, to explore the relation with other terms in its theory.

Case study is taking the major role of this research while the understandings based on literature review provide an essence base of further developments.

This research goes through the following steps:

1) A brief overview of contemporary product design in China.

This research is based in China. Therefore, to have the awareness of Chinese contemporary product design is principal and significant. Through interviews with well-known Chinese manufacturers and design firms, and together with some second-hand case studies, I offer a perspective regarding contemporary product design in China. Major problems and difficulties discussed and so far as possible I try to explore them from a Chinese perspective. For instance: How and why design was ignored by Chinese manufacturers before? What's designers' situation nowadays? Why are copycats prevalent in China? What unique market strategies have helped Chinese manufacturers to gain market quickly and effective? To whom Chinese manufacturers can seek for the help of their product design? Etc. Addressing these questions may help to explain the why Chinese product design is lagged compare to others, why Chinese manufacturers have many misunderstanding in terms of product design, corporate identity building and brand building

Interviews also reveal that many Chinese manufacturers are now taking interest in PI, seen it as a crucial issue to improve and control the quality of their product design. The motive of this research also addressed as Chinese manufacturers' rising needs. Interviews included managers and designers of: Huawei Technology, ZTE, TCL Mobile, TCL TV, Konka, Nokia (Beijing), S-Point (Shanghai), Nova (Shanghai), and others.

2) Clarifying what is product identity.

A basic understanding of product identity is required and this step is very important to the whole research. Though PI is not an established theory yet (as mentioned before), some shared understandings can be traced, based on literature

reviews of Corporate Communication and other related theories. Interviews with some well-known international design firms, and discussions with some experienced designers in China also provide a pool understanding of PI. Those interviewed included designers and managers of: Seymour Powell in London, Fitch Design in London, S-Point Design in Shanghai, Nokia Design Centre in Beijing, China, Nova Design (Taiwan) Centre in Shanghai, and others. A detailed framework of the position of PI in respect to concepts of Corporate Communication is presented based on this understanding. Together with second-hand case study of IBM, allows us to develop an understanding of PI as a strategy that is part of the corporate identity and brand identity building, and its role in Product Development Process.

3) Further understanding of product identity.

Based on the concept built, case studies follow to further explore the character of PI. This includes such matters as PI's philosophy, pertinence, inheritance, innovation, and other issues.

4) PI's practice in Chinese manufacturers.

More detailed case studies are presented to cast light on the design progress in Chinese manufacturers. Mobile phone production was chosen to consider as it has shown a frequent shift of product identity. Interviews were undertaken with almost all of the major mobile manufacturers in China, including ZTE, Konka, Nokia (Beijing), and TCL Mobile, and further information was sought concerning Bird and Kejian. Based on this, four evaluative PI stages are proposed to give descriptive and analytical clarity to this situation.

I then devise a tier-wise arrangement of these four major PI stages, setting them in correspondence to product development strategies. I indicate how the evolution of product identity in Chinese manufacturers differs from that of international leadership companies and I make initial suggestions as to which PI strategy might be adopted to help shift firms to a higher stage.

5) PI development strategy in China.

After, I try to summarize what I believe are effective product identity development strategies as seen in first-hand and second-hand case studies in China. Differentiating these from the major strategies used by international leadership companies, I suggest what I term ‘star product strategy’. Star product appears to be a frequent feature of product and market development in China, and is a crucial element in shifting to higher stages of PI (and value).

6) At the end, I consider to propose an integrated product identity development process for Chinese manufacturers.

Different products and markets may have different product identity development approaches. Based on interviews and other first-hand information, I identify three major PI development approaches with three different PI stages as their background.

An on-going PI building project for a large electronic manufacturer is used as an example of how PI can be established from an understanding of corporate culture and corporate identity; a case study of the transport manufacturer SANY represents how to develop and maintain PI as a continual strategy based on existing design standards; while GoldPeak’s new sub-brand, ULTI, presents a

case where innovation in product identity is used to assist a company that aims to pursue a leadership position in the market (or explore new markets). These three different approaches together represent the major approaches to PI development and also represent the evolutionary process of PI.

7) Conclusion.

The content of PI is concluded together with the further understanding developed upon the literature review and in-depth case studies. An overview of the PI development approaches offered, with reference to the circumstances of Chinese manufacturers. This returns to key issues such as: how to distil the major concepts of PI from corporate identity and brand identity concerning of corporate culture as the fundamental core; how to maintain and develop these main concepts when develop new products, etc.

Chapter 2

An Overview of Product Design in China

As product design is becoming more and more important to Chinese manufacturers, a good awareness of Chinese product design is principal and crucial. What happened before? What is happening with product design in this manufacturing giant? In what direction are Chinese manufacturers is growing? What do they need the most? For both managers and designers inside and outside of China who want to improve or interact with Chinese manufacturers appropriately and effectively? Before to study PI's practice in China, I would like to take a rough glance at what has happened and is happening in respect to product design in China.

This chapter starts from the increasing design awareness among Chinese manufacturers during economy growth; it contains overviews of China's design education, design support, and, the unique marketing strategy of Chinese manufacturers. I also criticize the issue of copycats as one of the consequences of lagged product design in China. From giving an outlook of historical influence, current design situation and future trends, this overview also offering answers to many design problems typically related to China, such as why copycat production is still so popular in China; what are the weaknesses in the product development strategy of Chinese Manufacturers; why in China, corporate identity often confused with visual identity; what unique market strategies helps Chinese manufacturers to gain market quickly and effectively; why overseas designers

often find it difficult to work with Chinese designers, etc. In conclusion, I indicate major difficulties in the field and suggest where and why attention to product identity may yield improvement, (as interviews also inform this).

The purpose here is also to explore why PI has become significant to Chinese manufacturers, and, to build a base for further PI studies. This chapter is mainly based on interviews and case studies.

2.1 Increasing Investment in Product Design.

China started its economic reform in late 70's and from then the Chinese economy began to grow extremely rapid. Especially, the last decade has seen a high sustained growth (with an average GDP growth rate at 9.8%). With the sheer size of a 1.3 billion population China also has a huge domestic market with various tiers and great potential. In 2002, with just 13 percent of the population owning a mobile phone, China passed the US to first become the largest mobile phone market in the world, and still, the market is growing rapidly (Rob Curedale, 2003). The huge domestic market provides Chinese manufacturers with an excellent hothouse for various industries.

Leveraging their market knowledge and experience in logistics and production in the domestic market, Chinese Original Equipment Manufacturers (OEMs) have sufficient resources to develop their own brands, leading them to full-scale Original Design Manufacturer (ODM). As China increases its share in the global market with low-cost, labour-intensive items, domestic demand is

expanding for high-quality and well-designed products. Competition among Chinese manufacturers is becoming extremely intense.

The desire to operate as worldwide, international companies is an increasingly common aspiration among Chinese manufacturers. Especially after China's entry into the World Trade Organization (WTO) in 2001, the dynamics of this populous country have altered, both socially and financially. The trading arrangement has changed the competitive outlook and the prospects for numerous industrial activities in the Asia/Pacific region as well as globally. As Chinese manufacturers become more and more experienced and gain strength in their huge domestic market, some of them have begun to have ambitions of global distribution. A number of good quality Chinese products have begun to hit the market owing to competition with both domestic and foreign companies. Chinese manufacturers are attempting to establish their own corporate brands and build global reputations.

Chinese manufacturers are shifting upward their roles driven by both domestic and global markets. There are mainly three kinds of upgrades – from the bottom to the top they are: matured OEM invests to build their own brands with the desire to be an ODM; experienced local manufacturers focus on competitive product creation and show their ambition to be a leader in the domestic market; top manufacturers with large and stable domestic market share aim to extend to the global market with high-quality, well-designed products offered at a competitive price.

Execution is critical in these upgrade processes; apart from acquiring the mode of production from business partners and competitors, investment in design

is becoming crucial. One sign of this is that firms that are upgrading are active in establishing design departments or expanding existing ones, and are searching for designers to join their product development teams. Many large Chinese manufacturers – and especially those who are at the top end of the upgrade process – now have their own design departments. Haier Group Co., the largest general household electric appliance manufacturer in China, was one of the very first companies to establish an industrial design team in 1994. It is handled by Qingdao Haigao Design and Manufacturing Co. Ltd., a joint venture with GK Design Group in Japan. Now Haier has become a leading manufacturer not only inside of China but also in the global market for its range of products[3]. TCL Mobile, a subsidiary of TCL Corporation which is a leader in TV set production, extended its products into communication, household appliances, electrical and digital products. The design team for mobile phones was set-up in 1999 and it is probably the first internal design team for the mobile industry in China[4].

Rather than establishing their own internal design teams, some smaller Chinese companies prefer to rely on external design firms as their design consultants. Design firms may be local or international companies, and many involve a mixture of local and overseas staff (or staff with overseas training or professional experience).

[3] Information source: Haier Group Co. Ltd,. www.haier.com.

[4] Information source: TCL Mobile Co. Ltd,. www.tclmobile.com.cn.

Whether inside or outside of manufacturing firms, designers are generally more and more respected and appreciated. Chinese designers are now becoming active in refining their roles in different design service platforms.

2.2 Industrial Design Education in China.

As Chinese manufacturers begin to appreciate and rely on the ‘magic power’ of design for sustaining and creating advantages for their business, the need to find good designers and design managers becomes urgent and crucial. The main source of designers is university-level design programmes in China.

Specialised industrial design education was introduced in China in the 1980’s. At the early stage, there were mainly two areas of industrial design education, art-oriented and engineering-oriented. Among the art-oriented design programmes, the earliest was established in 1960 by Wuxi Light Industry College (It was promoted to Wuxi Light Industry University in 1995, and has now became Southern Yangtze University after joining with Jiangnan College and Wuxi Normal College in 2000). Initially, the programme focused on the art of form-building, to help students develop artistic sensibility that allows them to design aesthetic and attractive forms for products. The programme was named "commodity modelling art". In 1981, the school sent two teachers to Japan to study industrial design. They brought back new concepts, new theories, new courses, and new teaching methods. Some design courses, such as Industrial Design History, Design General, Ergonomics, etc., were first introduced. From then until 1985, the design programs developed four specializations: Industrial

Design, Packaging Design, Interior Design and Fashion Design. In 1986 the Industrial Design Department commenced recruiting students who majored in science and engineering, and not only students who had an art background. This was a significant turning point in Chinese industrial design education, being the point at which educators gave up the view that industrial design is simply concerned with aesthetic form, and instead recognised that it entailed multi-disciplinary knowledge. Now the industrial design programme at Wuxi is accepted as the most mature and perhaps the most famous one in China[5].

Another early authoritative design school was Central Academy of Arts & Design which was founded in 1956 (and now is the Academy of Arts & Design of Tsinghua University since it merged into Tsinghua University in 1999). At the beginning it only offered some fine art courses, but in 1984 the Department of Industrial Art was renamed as the Department of Industrial Design. The design program in Central Academy of Arts & Design remains art-oriented, requiring applicants to have a strong art background. This it thought to make is much easier to train them to have aesthetic thinking, and drawing skills are seen as allowing them to create and represent their design ideas[6].

For engineering-oriented industrial design education, Hunan University is the earliest one. The Industrial Design School was established in 1977, under the leadership of Prof. Zhao Jianghong, a specialist in Ergonomics and Computer Aided Design. The key courses were initially very engineer-oriented, such as

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[5] Information source: School of Design. (2005). Southern Yangzte University. http://www.sodcn.com/jsp/survey.jsp

[6] Information source: Academy of Arts & Design. (2005). Tsinghua University. http://ad.tsinghua.edu.cn

Industrial Designing Engineering Technology, Ergonomics, Engineering Cartography, etc. Since 2002, the School began to recruit students with an art background as well. Then it gradually changed the structure of programme and balanced courses between art and engineering[7].

The recent historical development of industrial design education in China has been toward an integration of Art, Technology, Sociology, Economics, and other knowledge. There have been efforts to build an integrated teaching structure including courses from all of these areas. However, because of the recruitment system there remains much compartmentalisation of art-oriented and engineering-oriented approaches in industrial design education. In many design schools, they offer industrial design programs but students are separated into art and engineering groups, and different courses with different strengths are required. Zhejiang University practices this approach, and has a great reputation. In some other design schools, through students from different backgrounds study together in the same industrial design program, they have some different courses to undertake separately. For instance, in the Design School of Southern Yangtze University, some courses like Applied Physics, Fundamentals of Mechanical and Electrical Engineering are required for students with an engineering background while not required for students with an art background. And even for the same course, the requested outcomes may differ, such as in Mathematics, English, Sketching, Rendering, etc. This is very common now in industrial design education in China. Although students have their own understanding of courses and different talents that allow them to achieve individual performance, somehow,

[7] Information source: Design School, (2005). Hu Nan Univerasity. http://id.hnu.net.cn/index.html

as consequence of the teaching arrangements, the graduates separate, with specialities of either an art or engineering nature. In the other words, it is rare that the new graduates integrate both excellent aesthetic sense and skill and solid knowledge of engineering.

In the early 1980's, there were only 20 universities offering design programmes in China, and in 1994, less than 20 industrial design programs were offered. Since then, the growing design market has become a primary driver for setting up quite a number of new design schools and has driven design into the top-ten majors among hundreds of the registered majors offered in universities. And it is conspicuous that art-oriented programmes and engineering-oriented programmes are merging together. By September 2001, 386 universities or colleges offered design programmes. Among these 386, only 40 have more than a 10-year teaching history. The Chinese Higher Education Committee recorded that by 2004 China had 219 industrial design programs, and was producing over 10,000 industrial design graduates each year. And it is obviously that this figure will still increase (Axis, 2001 and Xiangyang Xin, 2004).

As so many design schools were established within such a short period of time, that there are weaknesses in the resulting situation is not surprising. Based on personal contacts and interviews with a selection of senior lecturers and professors from design schools in Zhejiang University, Southern Yangzte University, Hunan University, and Tsinghua University[8]; together with my own

[8] Interviews with academic professionals were done from Sep 2004 to May 2005. Interviewees included: Prof. Xu Xihua and lecturer Ms. Yang Ying from Zhejiang University; lecturer Mr.Gu Zhenyu from Southern Yangzte University; Prof. Yang Xingyong and Assistant Prof. Zhao Gang from Hunan University; Prof. Lu Xiaobo from Tsinghua University. Some of the interviews were by telephone. (Please refer to Appendix 1 in appendices for the list of interviews.)

teaching and working experience in Zhejiang University for five years, I would like to expand on some of the major difficulties in design education in Chinese universities.

The rapid expansion of Chinese design education, has occurred in immature circumstances and has resulted in hastily planned programme structures and curricula. The major issues are very clear: inadequate time and money, under-developed course materials, gaps in teaching experience and insufficiencies in human resources. Hardware is a major difficulty in respect to raising the level of industrial design education in China. The hardware of some design schools is not proper or even sufficient to run some planned programmes; there is not enough studio space, facilities, libraries, computers, etc. But with resources, issues of hardware can be solved much more easily. The software in Chinese design education is more crucial and the problems more intractable.

Firstly, the attitudes toward and the purposes for establishing new design schools are sometimes inappropriate or even ill-considered. New design programs haven’t incorporated recent design theories, practices and experience, either in respect to overseas circumstances or even those within China. From my own experience and from my discussions, it appears that the decision to establish a design school or offer a design programme is mainly a political and commercial one, and is largely driven by perceived benefits to the university or college. Colleges need an integrated education structure with wider programme offerings in order to be upgraded to a university, while a university can be re-positioned into a senior tier if it has design programme; or institutions may be attracted by the money-making potential of a popular programme; or both.

Secondly, the policies that guide the direction of many design programmes are unclear and always changing. Some design schools changed their industrial design programmes from engineering-oriented into art-oriented because the latter usually charge higher fees than the former.

Thirdly, design courses and even the programme structure change very frequently. To add new subjects is a relatively easy decision even if an institution doesn't have enough academic and professional experience to deliver them.

Fourthly, the lack of teaching staff is currently another major problem of design education in China. Often, young fresh graduates join in the teaching team without working experience, in either professional or educational contexts. One of my classmates became a teacher just after she graduated form the same university, holding a bachelor degree. Without any working experience, she only taught what she herself had just learned. This is a serious and malignant problem in respect to generating and advancing knowledge in the design field.

Fifthly, a crucial weakness is the misunderstanding of teaching models and teaching contents. In most of the design schools in China, they use what they perceive to be a 'Bauhaus approach' to teaching, focusing on form and utility, narrowly conceived. Many contextual or cross-disciplinary design subjects and topics that have recently been developed are not present in the curricula; such as Design Thinking and Design Management. There are also problems with even basic design subjects such as Design Drawing. Instead of teaching students the basic visual communication skills to represent their ideas through visualization, Chinese students learn traditional Renaissance drawing skills with a focus on technique alone. Creativity is neglected, training emphasised.

Sixthly, attitudes toward 'new knowledge' are generally not very serious, and not supported by research and rigorous review processes. Chinese can easily talk about new theories without fully digesting them or exploring them in practice.

Lastly, teamwork training is another weakness in Chinese industrial design education which results in serious problems for new graduates. Many employers complain about graduates' teamwork abilities and find they are not very good at communicating with others[9].

Overall, the major difference in industrial design education between China and other areas (such as USA, Europe, Japan, etc.) lies in teaching methods and content. It will take some time to become competitive in this regard.

Apart from these criticisms of industrial design education in China, we also acknowledge that design schools in China are learning, changing and growing. It is no doubt that step by step, the situation will become better, and hope finally industrial design education in China will achieve the same quality as the others. Even while the educational environment is not yet mature, Chinese design programmes are already providing numerous able industrial designers and gradually these individuals are changing the circumstances and reputation of Chinese product design.

[9] Please refer to section **2.7** for detailed analysis.

2.3 Design Support in China (Chen Jie and Eric Wear, 2004a).

As the pool of industrial designers increases and the value of design is appreciated, designers are increasingly playing more important roles in Chinese manufacturing. Two major types of organisation are emerging: internal design teams and external consultant firms. The use of internal and external design support has arisen both from immediate circumstances and from an awareness of international practice.

This is happening principally in those parts of China where industrialisation is most advanced and where design education is also concentrated; at present there are three main design centres in China: Beijing, Shanghai and the Pearl River Delta (Figure 2-1).

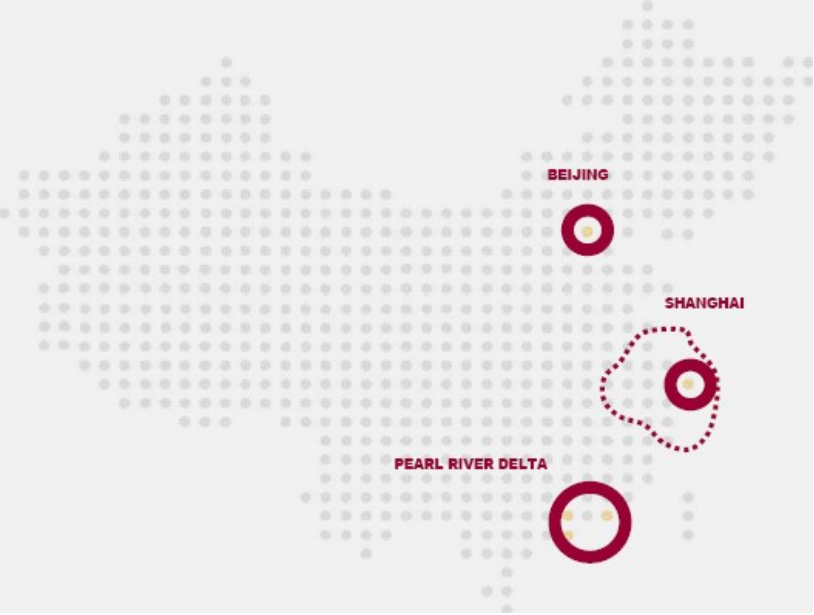

Figure 2-1: Major design centres in China (S-Point and Zhou Yi, 2003) [10]

[10] Figure 2-1 is adopted with the permission of S-Point (materials provided) and from Zhou Yi, 2003. 'ID has its future in China', *World Design Forum by Korea Institute of Design Promotion (KIDP) and the*

Beijing is the capital of China and it is also one of the most important centres of politics, economics, culture, education and industry. Many large-scale manufacturers, famous local design firms, and branches of international design companies are based in Beijing. The major industrial cities around Beijing are Tianjian and Zhengzhou. Shanghai, supported by such cities as Ningbo, Wuxi, Nanjing, and Hangzhou, has become another design centre in China with a marked international aspect. Finally, the Pearl River Delta has the most developed manufacturing base and is another major design centre in China. Its major cities are Guangzhou, Shenzhen, Shantou, Zhongshan, Xiamen and Hong Kong.

a) Internal Design teams.

Most large Chinese manufacturers have their own internal design teams, and this is in line with their general historic practice of having in-house all of the principal work necessary for production. It has also been felt that in-house design teams would have a better understanding of Corporate Identity and be more able to create products to build a more consistent Corporate Image. In the 1990's, most large Chinese manufacturers, such as Lenovo, TCL, Konka, Huawei, etc, built their own internal design teams, separating these from engineering and other production practices. From the viewpoint of historic development, internal design teams are the consequence of the ongoing evolution from OEM to ODM. Usually, an OEM needs little if any design support, as its products are an outcome of engineering and cost control. But once an OEM recognises its production

International Council of Societies of Industrial Design (ICSID), Seongnam, Korea 2003 (plenary presentation).

advantage and applies this to the creation of its own brand, an internal design team is an important element.

b) External design consultant firms.

External design firms in China first emerged in the 1980s and those with a specialty in product design in the later 1990s. They are used by manufacturers for several purposes. Small companies often rely upon them for specific design tasks rather than taking on the cost of establishing an internal design team. Even where a company has a design department they may be used to handle tasks beyond the competence of the internal designers, or they may take on work when there is a temporary rise in the number of projects. In other cases, they may be used to enrich and support, offering alternatives to the views developed internally and sometime presenting a more strategic perspective. This creates competition and widens the design choices available to management. Owing to both their relative sophistication and the expectations of their clients' management, external consultants – and overseas design firms in particular – may take a leading position in individual projects. This is also the case where a firm has both an overseas and a domestic internal design team. For instance, Kejian, one of the top three mobile phone manufacturers in China, both has design departments located in mainland China as well as South Korea, but it is the latter that produces most of the new designs.

There are mainly three typical kinds of external design firms in China:

1. Local design firms with a strong Chinese cultural identity and locally educated staffs. Sometimes they have senior Chinese consultants with an international

background. Chinese design firms find their strength in their deep understanding of local culture, the domestic market and the local clients. These firms take up most design works that is externally placed, though they often command less prestige (and fees) than the other two types of external firms. One special member of this kind of design consultants is local design schools. They take the practice for the purpose to gain experience in design both for their students and teachers.

2. Recently, international design firms have opened their own branches in China, managed by expatriate staff. For instance, Fitch, a famous American design consultant company together with GE – the world's largest manufacturer and technology service company, opened a design house – GE/Fitch in Shanghai in 2002, which provides design services in brand strategy, product development and package design. International design firms often have rich and complex design experience and arrive in China with a sound reputation and an impressive portfolio. However, while they are often familiar with overseas markets, they may have little appreciation of Chinese issues, including culture, market and clients. Compare with the foreign design firms, Hong Kong and Taiwan design consultant companies are regarded as having better understandings of China market in terms of consumer preference and life style, and taking the advantage to have the ability to integrated Chinese culture into Western style.
3. Finally, there is a recent trend of Chinese-led design firms that bring together a mixture of design backgrounds and cultures. Often led by Chinese designers who have had significant overseas experience, these firms employ experienced overseas designers or collaborate with overseas design firms (sometimes even

including the privilege to use the name). This sort of firm tries to combine the advantages of both local and overseas experience, and so gain more clients, both locally and overseas. S-Point Shanghai is a leading example of this kind. Established in Shanghai in 1997 it has entered into a long-term cooperative relationship with Designafairs – a worldwide German design company. S-Point formally joined Designafairs in 2003 and changed its name to S-Point Designafairs, to shift its role onto an international level.

Internal design teams and external design firms are building a solid platform for Chinese product design. Through problems are always there (see the following few sections for details), I see a bright future for product design in China.

2.4 The Late Development of Design may explain the 'Copycats'.

As Chinese design education focused on industrial production began really late in comparison with that in advanced economies, it is not surprising that design-related firms have been slow to appear. Independent Chinese design firms emerged in late 1980's, while those specialized in product design were formed in the late 1990's. Initially Chinese design has been relatively immature, and there has been much misunderstanding and fetishism of design outcomes. For instance, in the early 1990's, when designers in developed countries focused on Corporate Identity strategy research, Chinese design firms provided corporate identity solutions for Chinese manufacturers that amounted to no more than visual work, such as replacing logos and labels (Axis, 2001). Broadly speaking, there is as yet

not a strong discourse about the nature and character of design among Chinese designers and educators – this leaves the field even more open to other kinds of pressures, such as those that are driven by short-term economic considerations.

The quality of design in China remains the subject of persistent criticism, especially in international comparisons. Chinese manufacturers are mainly focusing on making products for the lowest possible cost. Often, replication and duplication provide the shortest way to lower costs and quickly gain market share. A bit better, with more awareness of the importance of branding, more and more Chinese manufacturers now follow or 'shadow' the designs of leading overseas companies' products. This is undertaken as a low-cost strategy to gain more market share in a situation where quality begins to matter and the goods concerned are no longer mere commodities (Chen Jie and Eric Wear, 2004b).

An interesting point came out during interviews with designers and managers. In most cases, it was said that decisions to undertake copycat design were made by general managers, whose concern for design was expedient. For instance, ZTE is the second largest telecom company in China an also a manufacturer of mobile phones since 2001. ZTE has chosen to copy and shadow the design of Samsung mobile phone to build its domestic market share. The chief manager of ZTE is the final judge of the mobile phone design and the only principal he uses is that the design of new ZTE mobile phones must follow the most popular model of Samsung in the current market. This approach is taken mainly because the chief manager isn't willing to take any risk in the market, and in additional, Samsung is the favourite brand of the chief manager personally. Mr. Niu Beng, director of design department in ZTE explained: "Of course none of

our designers is willing to work like a copy machine. It's not design at all. Our manager seems to lack confidence in his own design team. Each year we do some original designs but we just display them in the window. None of them has been chosen to be produced because our manger didn't want to take any risk. Just following Samsung is the fastest and safest way"[11].

This situation is obviously a problem and a site of conflict in respect to international intellectual property law. It has been said that Chinese designers don't care about intellectual property rights; this frustrates many overseas designers and manufacturers. However, so far, ZTE has never been legally challenged by Samsung for its duplication. "This maybe because, first, Samsung knows how difficult it is to deal with the Chinese government; second, ZTE mobile phone has such a small market share; Samsung doesn't want to take any risk to lose its retail network in China for just such small duplications. Therefore, though the copycats are very clear here, we never had any intellectual property problem with Samsung", said Mr. Niu Beng, in the interview in early 2004.

In fact, in China, the intellectual property regulation has not been widely used to protect innovations or the rights of others. Copycat strategies have been used as part of a strategy to rapidly catch up with competitors, both in respect to individual industries or firms, or even in respect to national economic development. Local and national authorities have been seen to promote or protect copycat production. That many of the victims of intellectual piracy are overseas firms further complicates the situation. Chinese nationalism has been taken up as

[11] First interview with ZTE was in March 2004, with Mr. Niu Beng, the director of design department in ZTE, and some senior designers. (Please refer to Appendix 1 in appendices for the list of interviews.)

a defence, with violators of intellectual property rights claiming to have acted in the interest of the nation, acting against the 'invasion' of foreign products. Very often, intellectual property lawsuits are counter-productive for the victims who bring them; the local company who copies overseas products simply becomes famous and gains a larger market share.

However, the phenomenon of copycat design and production may be only a temporary (and unavoidable) stage for most Chinese companies. I revisited the development of ZTE's product strategy, in an interview in July 2005 with Mr. Niu Beng[12]. At that time, he declared that ZTE no longer rely on copy or shadow Samsung, that it is now searching for its own style and that the origin of ZTE's current line of mobile phone design is from their designers. "We have already achieved the goal in our very first stage and benefited from following Samsung. With the brand reputation built and market share growing steadily, we have changed our product strategy and shifted it into a higher stage, which is to build ZTE's own brand. And we are now searching for our orientation for the mobile phone design and trying to establish a product identity system to help guide the product development. "

2.5 "Weak Points and Strong" – a Unique Chinese Marketing Strategy.

Socialist collective ownership policy and socialist planed economics guided developed in China since 1949. But in late 70's, China began its economy

[12] Interview with ZTE was in July 2005, with Mr. Niu Beng, the director of design department in ZTE. (Please refer to Appendix 1 in appendices for the list of interviews.)

reform and opening, shifting to a market economy; with this came many new things for Chinese to learn and to practise in respect to business management. Before the economic reform, Chinese companies belonged to the country; managers were the people who helped the government to run the company. However, they didn't have to take the fully responsibility for their jobs and as a result they didn't care that much about how to enhance the company's profit or even the quality of its product. Most of the time, the appointment of a best manager was based on political background instead of management capability. When more and more Chinese manufacturers turned ownership from collective to private, lack of management capability became a serious problem in the new market economy circumstances. Challenges from local and international competitors began to push Chinese manufacturers to improve management skill and invest in design to survive.

In shifting from a socialist to a market economy, Chinese directors developed some unique market strategies based on their understanding of traditional Chinese strategic philosophy, refining these strategies in the course of practical experience in these last twenty years.

Doing business can be thought to be like a battle. China has over five thousand years of history and Chinese have been taught and deeply influenced by war strategies developed during earlier periods. Sun Tzu's "Art of War"[13], for

[13] 《孫子兵法》— "The Art of War by Sun Tzu", is the oldest military treatise in the world, written by Sun Tzu in the Spring and Autumn Period, around 5-century before Christ. Sun Tzu (Sun Wu), born in 535 BC, a great Ancient Chinese strategist and ideologist. The book recoded the military strategy used in ancient times in China. Sun Tzu recommended a strategic method to win that rarely required actual war. Spies, deception, vision, leadership and a correctly organised internal structure were his main tools. This book was introduced into Europe in the 18th century and has been used to develop strategies for wars and business. The first English version was translated by Mr. Lionel Giles, M.A., in 1910.

instance, is respected as the distillation of strategies that have been (and could be) used in war and other forms of conflict or competition (such as business.) Strategies such as those recorded in this book are the major sources for Chinese to develop personal strategies as they seek to enhance the odds in their favour and to decrease risks. In his sixth chapter, "Weak points and strong", Sun Tzu explained how to achieve this[14]. To be a great leader is to inflict damage on the enemy, to impose his will on the enemy, to cause the enemy to approach of his own accord, therefore to put the enemy into a passive situation; to form a single united army while to force the enemy to split up into fractions, to create many against few; to avoid to fight with the enemy face to face where they are well-defended and stronger, to use the most strong army concentrate on the weak point of the enemy; hence, the victory will belong to you even while enemy is much stronger than you. This is the essentiality of Chinese military strategy.

Among modern leaders Mao ZeDong[15] also took a keen interest in military strategy and his writings continue to be popular, even as his strategies are recast in commercial competition. For instance, Mao described how to win a city by first seizing the weak area surrounding it – the countryside – using a highly mobile strategy that allowed him to gain enough time to recruit and grow his army.

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[14] 《孫子兵法。虛實篇》：…行千里而不勞者，行於無人之地也；攻而必取者，攻其所不守也；守而必固者，守其所不攻也。…進而不可禦者，衝其虛也；…夫兵形象水。水之形，避高而趨下；兵之形，避實而擊虛…。 "Weak points and strong", the 6th chapter of "The Art of War by Sun Tzu": ……An army may march great distances without distress, if it marches through country where the enemy is not; you can be sure of succeeding in your attacks if you only attack places which are undefended; you can ensure the safety of your defence if you only hold positions that cannot be attacked.……You may advance and be absolutely irresistible, if you make for the enemy's weak points; you may retire and be safe from pursuit if your movements are more rapid than those of the enemy……Military tactics are like unto water; for water in its natural course runs away from high places and hastens downwards. So in war, the way is to avoid what is strong and to strike at what is weak. Ttranslated by Mr. Lionel Giles, M.A., in 1910.

[15] 毛澤東，Mao ZeDong, 1893—1976, the founder and first Chairman of The People's Republic of China from 1949 to 1976; ideologist, politician and strategist, he developed his military tactics through 22 years of war experience and left around 5 millions words describing his military strategies.

Only at the final stage was an isolated major city besieged and captured. Mao's tactic is seen as representing how the weaker win against the stronger. The relevance of this occurs when Chinese view themselves as the weaker party in national competition with the developed countries; or Chinese manufacturers see themselves as less experienced challengers in the international market.

The importance of particular strategic thinking and positioning can be seen in respect to product-based companies. For instance, TCL Mobile is a very successful manufacturer of mobile phone handsets with 12% of the Chinese domestic market in 2003[16]. When TCL – otherwise a manufacturer of home electronic products – determined to step into the mobile phone industry in 1999, the Chinese mobile phone domestic market was mainly governed by international brands – Nokia, Motorola, Siemens, Ericsson, Samsung, Panasonic, etc. These international brands held complete advantages not only in technical prowess, but in outstanding reputations and market performance. The first four brands shared over 84% of the Chinese market while the total market share of Chinese domestic brands was only 3% in 1999[17]. TCL knew the battle would be tough, because in every respect - the technology, the design, the service or the brand name - TCL had nothing to compare. "We had to find our strong points," said Mr. Zhang Yong, the manager of Tactics Department, in an interview in March, 2004[18], "Price was the only advantage we had but it was still impossible for TCL Mobile to win in major cities only by price. We tried to discover what international brands couldn't

[16] Date source: TCL, News released on 18, Aug, 2003. http://www.tcl.com.cn/02news/

[17] Date Source: CCIDdate. www.cciddate.com.

[18] Interview with TCL Mobile was in March 2004, with Mr. Zhang Yong, the manager of Tactics Department. (Please refer to Appendix 1 in appendices for the list of interviews.)

archive. TCL TV has a very well-developed retail network which already infiltrated from major cities to small towns and this retail network also has very good relations with local governments. We decided first to concentrate on the tier 4 and tier 3 cities, ignoring the market in major cities as competitions there were already dominated by all the international brands. With our huge retail network and specially designed products (see more in section **4.1.3.2** for TCL case study). TCL Mobile had a great success and quickly gained over 12% domestic market share with 20% to 30% annual net sales growth. Now TCL Mobile is strong even in the major cities. TCL Mobile is shifting its brand image from low-price entry phone into high-quality multi-function phone and extending to the global market. ” The Manager of Business Development in TCL Mobile Hong Kong, Mr. Raymond Li further explained more about this market strategy during an interview in April, 2004[19]. In tier 3 and tier 4 cities, TCL offers retail owners a very low price but sells the retail arrangement as a whole package. TCL promises all the necessary services such as the decoration of point of sale, the advertisement, etc, to attract retailers to take on as much as they can, hence they have no money for other mobile phones even some famous international brands have the same level products for the same price. “Major cities are few while the lower tier cities are thousands. We see these cities as having a great potential market even though people there are not rich.” said Mr. Raymond Li, “Negotiating with locals is the weak point of international companies while it is the contrary to us; and we know how to create more weak points for our competitors. That’s why TCL Mobile can win in such a short time.” This market strategy is not only useful in the Chinese

[19] Interview with TCL Mobile HK Company was in April 2004, with Mr. Raymond Li, the Manager of Business Development. (Please refer to Appendix 1 in appendices for the list of interviews.)

domestic market. When TCL Mobile extended its market to Europe in 2003 it also chose not to target major cities. This strategy is now showing its magic in the European market. “There is no doubt that the market in Europe is more complicated and sophisticated, but we have the faith that we can make it”, said Mr. Raymond Li.

However, all has not gone well for TCL in its venture into Europe, especially in respect to design. European people’s aesthetic sense and valuation basis are very different from that of Chinese. TCL first tested its best-selling diamond mobile (with diamonds decorated on the cover) in the European market and incurred a terrible rejection. Through subsequent market research, TCL Mobile has re-positioned itself in Europe with a phone that is more professional, echoes European fashion style, offers multi-functions, and a much lower price. (However, unfortunately, TCL didn’t success in European market and had to withdraw all the investment in the early 2006. Through the reason must be various, design could be a part of it.)

Compared with international competitors, most Chinese manufacturers hold weaker positions in respect to experience, management skills and brand awareness. Using a strategy of ‘strong points to strike the weakness’ of competitors is thus a common viewpoint; and the strategy of ‘from countryside to cities’ in marketing strategy has also worked for many others in addition to TCL, e.g. Bird, Konka, Huawei.

With the growth of Chinese manufacturing during the last ten years there has seen the creation of many new firms in almost every industrial category. Chinese people learn quickly. Once an industry shows great profit this tempts lots

of people to follow in a very short time. Copycat production and disregard for intellectual property protection is encouraged by this and is accelerated along with it. There is also a tendency for marketing strategies to be become similar. Establishing new production and distribution many Chinese manufacturers will simultaneously adopt and benefit from such strategies because they seem very effective for the particular circumstance, at least over the short term. Consequently, it is now said that lots of Chinese industries are creating over supply for the domestic market and will soon be facing a period of failures and consolidation. Since most of their strategy is shared, the advantage held by any particular firm is becoming tinier, and they are now searching for other solutions to create competitive difference. Understanding and investing in the design of products is now a matter of new importance.

2.6 Immature Product Design and the Late Arrival of Design Management.

In the early 1990's, when corporate identity theory was first introduced into China, visual identity (VI) was first stressed, under the strong influence of Japanese models. The magic power of VI attracted Chinese manufacturers, and for the very first time they invested in design. Until now, visual identity remains one of the three major elements of Chinese corporate identity strategy with mind identity and behaviour identity (He Maohua, 1997. pp. 1-5). The design competitions at that period mainly focused on the visual image. Chinese manufacturers didn't realize that for product-based companies, VI involves just a

very small part of the product. Logo, label, and packaging cannot give a product an essential or lasting competitive advantage. Hence very quickly, while VI became popular and almost every company had its VI designed, the design advantage became level.

Product development strategy is now coming to be emphasized in this condition. In the early period, two major mistakes were seen that Chinese manufacturers often made. One was over-reliance on one or a few products, while doing nothing to develop new product to maintain the advantage in the market. Or, on the contrary over-development of unrelated products causing chaos in production, management and finance. There are two famous failure cases in the VCD and DVD player industry.

VCD&DVD player industry grew up since 1993. In just over ten years, it became a business with over one hundred million US dollars net sales (VCD player net sale in 2004[20]). The first manufacturer was Wan Yan Electronic Co., Ltd[21] which first produced VCD players in 1993. In 1996, while the net sale of VCD players in China increased to 600 million units, Wan Yan's market share dropped from 100% to 2%. And finally WanYan was wound up. The major reasons were financial but underlying these were design problems, Wan Yan's products were too similar and readily lost their advantage in a market with increasing competitors. The product was already in the decline stage in the product life cycle but the company didn't realize the product better to be

[20] Dates source: *"The annual report of Chinese VCD&DVD player market in 2002"* by CCIDdate released on 27, Feb, 2002. Report No. 314. www.cciddate.com.

[21] WanYan Electronic Co., Ltd regarded as the founder of VCD&DVD industry in China, Company was found in 1993 and recombined by Meilin Corporation in 1996.

re-designed and replaced by a new product. Aiduo's failure is just the contrary. Aiduo[22] is a legend in the VCD & DVD player industry. In just two years, this small company became the leader in the industry. And then another two years later, Aiduo sold its brand and disappeared in the market. Aiduo's problem was that it became over-extended, with many product categories while ignoring its major product's (VCD player) development. Telephone, digital TV set, audio set and other product lines were launched at almost the same time and tied up all the capital. Meanwhile, it brought problems in the product management and production of the VCD player.

As Chinese manufacturers are developing, a new difficulty is emerging which is related to expansion and extension. Extension occurs in many different ways, but typically entails concern for product, product line, brand, sub-company (which is even more complex when this involves acquisitions of and mergers with other companies). More and more Chinese manufacturers are now navigating this adventure. Every year, TCL Mobile launches new product lines: 7 new product lines in 2003, 2 in 2004 and 1 in the early 2005 (refer to Table 5 in appendices for more details). When TCL Corporation stepped into the global market, it first cooperated with Thomson Corporation in France and founded the biggest global colour TV manufacturer, TTE Corporation (TTE) in July 2004; it then purchased Alcatel Mobile in April 2004 and established TCL Alcatel Mobile Phone Limited

[22] GuangDong Zhongshan Aiduo Electronic Co., Ltd. found in 1995, began to entered VCD&DVD market in 1996 and gained the top market share since 1997. In 1999, Aiduo sold the brand and announced its bankruptcy.

Company (T&A) in the same year, and released two new model in the next May[23].

Bird[24] is Chinese largest mobile phone manufacturer. It expects to launch new product series every year: the A, D and F series in 2004 and then M and T series in the early 2005 (refer to refer to Table 6 in appendices for more details); Birds also established a new brand DoEasy, in 2003 to show its ability to design high-end mobile phones for the professional users. Like TCL, Bird seeks collaboration with international companies. In 2002, Bird first combined with Sagem, the second largest telecom company in France, and established a solid base (Ningbo Bird Sagem Electronics Co., Ltd.) which produces over 150 million mobile phone handset annually. Bird recognises that the key element to gain global market share will finally be quality, hence in May 2004, Bird opened a new page when it signed a Strategy-Alliance memo (MoU) with Siemens. Siemens is allowed to distribute its mobile phone using the retail-net of Bird, while Bird will be benefited by the technical support of Siemens.

Another well known case is that of Lenovo[25], a leading Chinese computer manufacturer. It was such a surprise when Lenovo purchased IBM's Personal

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[23] Date source: official website of TCL, www.tcl.com.

[24] Bird (also Ningbo Bird), the largest mobile phone manufacturer in China, founded in 1992, became the largest BP manufacturer in China in 1998 and produces mobile phone since 1999. Based on its strong retail-net, achieved 5% domestic market share in 2001 therefrom became the No.1 among all the Chinese brands. In 2004, Bird was arranged No.8 largest mobile phone manufacturer worldwide (IC Insights, released on 11 Nov, 2004, *IC Insights' New Emerging IC Markets Report Forecasts the Top 10 Cellular Suppliers for 2004*). Date source: official website of Bird, www.nbbird.com.

[25] Lenovo, renamed in 2004 from Legend which was founded in 1984. Lenovo has held the leadership position in the 3C era (computer, communications and consumer electronics) in China for eight consecutive years with over 25% market share in 2004. After it purchased IBM's Personal Computing Division in May 2005, Lenovo becomes an international technology company. Date source: official website of Lenovo. www.lenovo.com.

Computing Division in May 2005 and suddenly became the leading personal computing manufacturer worldwide.

Events such as these indicate the emergent directions of big Chinese manufacturers; product line expansion and establishment of new brands, collaboration with international leaders and even purchase of them. However, these decisions lead to a situation where a firm is handling a huge variety of products, which most of the time leads to a degree a chaos for the Chinese manufacturer (and in respect to their position and perception in the marketplace). How can they manage different and diverse product lines and brands? How can they maintain their primary advantages and create new one? Especially when the company incorporates or acquires another, different corporate identities may come up against together and may cause serious problem[26]. What can the managers and designers do to develop each single brand through new products? At this point product development strategy is more than just design, it requires the skill to integrate design, management, production, marketing, and service.

Chinese manufacturers are beginning to appreciate that design in particular should be well managed. Design management has been slow to emerge as a profession or activity. The term 'Design Management' was first formally discussed publicly at the Design Management Summit, organized by the Design Management Institute (DMI), in November 2003, in Shanghai. Currently, design management in China is in the learning and exploring stage with lots of immature

[26] TCL Alcatel Mobile Phone Limited Company (T&A) founded in Oct 2004 with at least a four-year cooperation proposal, announced its termination in May 2005. It was said that conflicts in management principles and business strategies arose from two very different corporate cultures. Date source: official website of TCL, www.tcl.com.

misunderstandings. From 2004, more and more design schools have begun to offer design management course even though they lack staff versed in this area.

Product identity as a very important part of product development strategy in design management is likely to be a critical feature in the ways that Chinese manufacturers manage their abundant products. To establish a suitable and unique PI helps not only to avoid the chaos in product management and production, but at a higher level it supports the building of brand identity - therefore creates long-term advantages in the market. The growing importance of product identity is also in certain respects a consequence of the growth and maturation of Chinese manufacturing. In undertaking this research I found it exciting that all the manufacturers involved in the interviews had a keen interest in the topic and some were even beginning to set up special research teams to consider how it could be utilised in product development. Later in section **4.3.1**, I will introduce an on-going PI building project for one of the biggest telecom companies in China where I will show how product identity can be established within existing processes.

2.7 Other Difficulties in Current China's Product Design.

In the above sections I introduced major features of current China's product design situation, and I described some of the problems in relation to design education, product designers' capacities, copycats, product strategies, design management and marketing strategies. Most of those problems can be

solved by money, understanding, experience and collaboration. What I would like to elaborate on here are some problems deal with Chinese personality, and I try to explain them from a prospective of Chinese culture background

China is a country with over five thousand years of history. Especially during over the last two millenniums, a unique culture has been developed in China in ways that have been at time strikingly different than in the West. The shape of much of this culture was already well-formed when it passed into classical writings, including: the Six Classics (The Odes, The Book of Poems, The Book of Change, The Book of Rites, The Book of Music, and The Spring and Autumn Annals[27]); Tao Te Ching of Lao Tzu[28]; Hua Nan Ching of Zhuang Tzu[29]; The Analects, The Doctrine of the Mean and The Great Learning of Confucius[30];

[27] The Odes（《詩經》), The Book of Poems（《書經》), The Book of Change（《易經》), The Book of Rites（《禮經》), The Book of Music（《樂經》), The Spring and Autumn Annals（《春秋》）are called as the Six Classical books in ancient China and regarded as the original source for Chinese to develop their philosophy and knowledge.

[28] Lao Tzu (Laozi: dates uncertain. Speculation ranges from 571 BC to 471 BC), is assumed, the author of the *Tao Te Ching* (*Daode Jing*)（《道德經》). Tradition regarded Lao Tzu as Confucius' teacher and the founder of Daoism. Traditional views are that Lao Tzu inspired Zhuang Tzu and they together formed a philosophical school known as "Daoism" which inspired a later religion of the same name.

[29] Zhuang Tzu (Zhuangzi, around 369 BC to 286 BC), is universally respected as the greatest Taoist after Lao Tzu. He took Lao Tzu's mystical leanings and perspectives and made them transcendental. His understanding of virtue as Tao individualized in the nature of things is much more developed and clearly stated. There is also a greater and more exact attention to Nature and the human place within it which also leads to his greater emphasis on the individual. His remarkable book *Zhuang Tzu (Hua Nan Ching)*（《莊子》）is regarded as one of the fundamental sources of Daoism.

[30] Confucius (Kongfuzi, or Mater Kong, 551 BC to 479 BC), founder of Confucianism, becomes long after his death the dominant Chinese philosopher both morally and politically. Confucius' most famous ideas and sayings were collected in *The Analects (Lun Yu)*（《論語》）by his students and it became the basic dogma of Confucianism. *The Doctrine of the Mean (Zhong Yong)*（《中庸》）and *The Great Learning (Da Xue)*（《大學》）are also his great writings. His ideas were adopted in the Han Dynasty as the official moral and political doctrine of the State. And Confucianism is also called the *Ju Chia* (*Ru Jia*). Confucianism is characterized as a system of social and ethical philosophy. It built on an ancient religious foundation to establish the social values, institutions, and transcendent ideals of traditional Chinese society. Together with Taoism and Buddhism, Confucianism is one of the "Three Ways" in ancient China.

Meng Tzu of Mencius[31]; Mo Tzu of Mo Tzu[32] . Together with the contributions of other ideologists and writers, these great books established the fundamental rules and dogmas for people to build their social, political and ethical philosophy in ancient China and still retain a dominant position in modem Chinese society. The influence of these texts has been supplemented and refined by the Three Ways[33] – Taoism, Confucianism and Buddhism. And in consequence of all of these sources, Chinese have developed distinctive personalities and thinking methods.

The issues I want to remark upon here include communication in the context of teamwork. Often, Chinese designers are perceived to have a very shy personality. They do not appear willing to speak up, to express their ideas, or their feelings. Sometimes when they have some questions, they don't ask others. Even worse, they pretend that they already understand matters about which they are in fact unclear. These have a historical reason. In his most famous book "Tao Te Ching", Lao Tzu commented that those who understand do not preach and those

[31] Mencius (Meng Tzu, or, Mengzi, 372 BC to 289 BC), great ideologist in the Spring and Autumn Period, one of the remarkable representative of Confucianism, was respected as China's first true philosopher. He inherited the ideas of Confucius and developed his famous "Ren Zheng" political policy. Mencius pioneered the argumentative essay style and constructed the first normative and political theories. He formulated a pragmatic theory of language that gave classical Chinese philosophy its distinctive character. His most famous work is *Meng Tzu (Mengz)*（《孟子》）.

[32] Mo Tzu (Mozi, 468 BC to 376 BC) was China's first true philosopher. Mo Tzu pioneered the argumentative essay style and constructed the first normative and political theories. He formulated a pragmatic theory of language that gave classical Chinese philosophy its distinctive character. Mohism became influential when technical intelligence began to challenge traditional priestcraft in ancient China. The "Warring States" demand for scholars perhaps drew him from the lower ranks of craftsmen. Some stories picture him as a military fortifications expert. His criticisms show that he was also familiar with the Confucian priesthood. His book named *Mo Tzu (Mozi)*（《墨子》）. And he is regarded as the founder of Mohism.

[33] In 1939, in the book of *Three Ways of Thought in Ancient China,* famous British philosopher Arthur Waley first integrated Taoism, Confucianism and Buddhism as the three major philosophical contents in ancient China. Arthur Waley, 1939. *Three Ways of Thought in Ancient China.* London, G.Allen & Unwin Ltd.,.

who preach do not understand[34]. Confucius, the founder of Confucianism also had the same philosophy about verbal expression. He prefers that action should take precedence over words[35], observing that a wise gentleman should be very careful about what he says and that it is a shame if he can not perform his words[36]. Stories of archaic masters also picture them talking less, and associate this with humility[37]. Confucius is a very good example[38].

From my interviews with Chinese design firms and manufacturers[39], I learned that Chinese designers, especially those who just graduated from local design schools, were often though to be deficient in communication skills. As a result, their employers established training in communication skills set up circumstances for group discussion. These steps were seen as very useful.

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[34] "知者不言，言者不知。" —《道德經》第五十六章。'Those who know do not talk. Those who talk do not know. Keep your mouth closed. Guard your senses.' Chapter 56, Tao Te Ching. Translated by Gia-Fu Feng and Jane English, 1991, *Lao Tsu-Tao Te Ching*, Wildwood House, first published in 1972. .

[35] "子曰: 先行其言而後從之。" —《論語。為政》, 第十三句。 'Confucius said, "Action takes precedence over words"'. Verse 13, Chapter 2, The Analects. William Cheung, 1985, *The Wisdom of Confucius*, Confucius Publishing Co.Ltd., Hong Kong.

[36] "子曰：古者言之不出, 恥躬之不逮也。" —《論語。里仁》，第二十二句。 "子曰：君子恥其言而過其行." —《論語。憲問》，第二十九句。 'Confucius said, "In ancient times, men hesitated to speak out, for their conduct, if failing short, would be shameful."'. Verse 22, Chapter 4. And, 'Confucius said, "A gentleman is ashamed if his words outshine his actions.'" Verse 29, Chapter 14, The Analects. William Cheung, 1985, *The Wisdom of Confucius*, Confucius Publishing Co.Ltd., Hong Kong.

[37] "不自見，故明；不自是，故彰；不自伐，故有功；不自矜，故長。" —《道德經》第二十二章。'The sage accepts the world, as the world accepts the Way; He does not display himself, so is clearly seen; Does not justify himself, so is recognized; Does not boast, so is credited; Does not pride himself, so endures; Does not contend, so none contend against him.' Chapter 22, Tao Te Ching. Translated by Gia-Fu Feng and Jane English, 1991, *Lao Tsu-Tao Te Ching*, Wildwood House, first published in 1972. .

[38] Confucius is a wise with the personality of humility. "子曰：吾有知乎哉？無知也。" —《論語。子罕》，第七句。 'Confucius said, "Do I have wisdom? I have no wisdom."'. Verse 7, Chapter 9, The Analects. William Cheung, 1985, *The Wisdom of Confucius*, Confucius Publishing Co.Ltd., Hong Kong.

[39] Interviews selected in this section were mainly done from 2004 to 2005. Including of S-Point Shanghai, Nova Design Shanghai office, Nokia Beijing, and some Chinese manufacturers. (Please refer to Table 1 in appendices for the list of interviews.)

Chinese designers also don't like to ask questions. This is also an old problem with cultural and social roots. For instance, Chinese people seldom ask question of their teachers owing to the notion that they should respect the master as their father even if the master were only to deliver knowledge to him for one day[40]. To ask questions of a master, especially a question which is out of the master's knowledge, is considered very disrespectful behaviour.

Chinese people also seldom seek the 'right answer' in their discussions with each other. They often don't feel comfortable to ask directly or clearly, because this is though to be evidence that one is not skilled enough to be know the matter oneself. In ancient times, Confucius already noticed this problem and advocated that a gentleman should not feel ashamed to ask questions[41] and to learn from others[42].

There is another big problem that all the design firms in this interview discovered that Chinese designers have less passion than designers from other cultures. S-Point is a local design firm with both local and international recruits. The senior project leaders noticed that Chinese designers (especially those who had just graduated from design schools), look upon there work 'as a job' rather than 'as a career.' This is also seen in comparisons of Mainland Chinese and

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[40] "弟子事師，敬同于父…一日為師，終身為父。" —《鳴沙石室佚書。太公家教》。姜尚，姜太公。Taigong Jia Jiao, Jiang shang, Jiang Taigong,, date unknown.

[41] "子曰：…敏而好學，不恥下問，是以謂之文也。" —《論語。公冶長》，第十四句。 'Confucius said, "He was quick and devoted to learning, and understand to ask of those below him. That is why he was called 'Wen'". Verse 14, Chapter 5, The Analects. William Cheung, 1985, *The Wisdom of Confucius*, Confucius Publishing Co.Ltd., Hong Kong.

[42] "子曰：三人行，必有我師焉。" —《論語。述而》，第二十一句。 'Confucius said, "When three men walk together, there is always something I can learn. "' Verse 21, Chapter 7, The Analects. William Cheung, 1985, *The Wisdom of Confucius*, Confucius Publishing Co.Ltd., Hong Kong.

Taiwanese designers. Mr. Jack Lin, (a project manager in Nova's Shanghai Office, who has over fourteen years design and management experience work in Taiwan) told me about the first project that he was in charge of when he arrived in the Shanghai office. He asked a Chinese designer to give him three design ideas, and the day after, he got three drafts on his desk. It was difficult for him to understand that Chinese designers followed orders strictly, rather than displaying the enthusiasm he expected of a designer. Confucius also took the view that a gentleman should not do what he wasn't told to do, that he does not necessary take on matters outside of his job or responsibility[43]. Talk less and act less because there will be less accusation and less remorse, therefore, it brings you ease[44].

Problems linked to Chinese culture are not easy to be solved. Trainings can be a way for a temporary improvement, while the ultimate solution is time. As more and more Chinese young people go aboard to carry the study mixed with western culture, as the new generation are now growing in a global circumstance which impacted by multi-culture atmosphere, to solve these problems only requires the investment of time.

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[43] "子曰：不在其位，不謀其政。" —《論語。泰伯》，第十四句。 "曾子曰：君子思不出其位。" —《論語。憲問》，第二十八句。'Confucius said, "When not in the official position, do not be involved with its policies."' Verse 14, Chapter 8, The Analects. And, 'Tseng Tzu said, "A gentleman does not think about what is outside his official position."' Verse 28, Chapter 14, The Analects William Cheung, 1985, *The Wisdom of Confucius*, Confucius Publishing Co.Ltd., Hong Kong.

[44] "子曰：…慎言其餘, 則寡尤…. 慎行其餘, 則寡悔. 言寡尤, 行寡悔, 祿在其中矣。" —《論語。為政》，第十八句。 'Confucius said, "With little accusation about what is spoken and little remorse about what is done, there is the emolument of an official. "' Verse 18, Chapter 2, The Analects. William Cheung, 1985, *The Wisdom of Confucius*, Confucius Publishing Co.Ltd., Hong Kong.

Chapter 3

Product Identity in the Context of Theories and Practice

After having a brief awareness of the current Chinese product design, it is also crucial to have a rough understanding of what is product identity and its relation with other identity terms before to study PI's practice in China. Though product identity is not an established theory in academic area because of its practical native; I believe that I can find some traces about it in the relative theories.

In this chapter, I first provide a quick overview of some relative theories, including of Corporate Communication, Design Management and Brand Management. As product identity is a more practical term, interviews, first-hand and second-hand case studies here provide very valuable information to help outline an integrated and realistic understanding of PI. I address the concept of PI, the relation between PI and other terms in corporate communication theory, PI in corporate identity system, PI in terms of corporate reputation acquisition.

3.1 Corporate Communication and the Context of Product Identity.

When we talk about identity in terms of product design, we have to refer to its origin -- Corporate Communication theory, in which various identity terms

has been established and developed. Corporate Communication theory is widely accepted and used as an essential strategy for business.

In some sense, every company exists as a form of communication (Olins, 1989, pp.29). No organisation exists as a single individual without communicating with its environment. Through the communication processes, an organisation expresses its message or theme to its internal and external stakeholders in an integrated, coherent way. This process is particularly important since it can facilitate an understanding and deepening appreciation of the organisation itself (Dolphin, 1999, pp. 2). Van Riel treats this process as an integral part of corporate strategy that is expected to contribute to the achievement of company objectives. He tries to define it in a systematic way where communication is broken down into three basic forms: management, organisation and marketing. He proposes Corporate Communication as a mutually established strategic framework, in which all communication specialists integrate the totality of the organisational message (Van Riel, 1995). Balmer et al. refer to this process as a channel by which an organisation's mission and philosophy is made known to internal and external stakeholders and networks, and which translates over time into the acquisition of reputation. He expands van Riel's framework by including uncontrollable elements and entitling this "Total Corporate Communications" (Balmer and Gray, 1999; Balmer, 2001). Olins, writing from a practitioner's point of view, treats everything a corporate does in every way -- such as its products, services, buildings and staff behaviour -- as forms of communication. The potency of different forms of communication vary together with the degree to which they are modulated (Olins, 1989, pp. 29). Although there is variation in their views on Corporate Communication, various writers concur that the goal of it is to acquire a

good reputation in stakeholders' minds, in order to bring value or advantages to the corporation.

Identity plays an important role in studies of Corporate Communication. In terms of linguistics, 'identity' refers to something consistent and repeatable in nature (Bernstein, 1984) and this may be a reason for the high coherency with 'symbolism' (Balmer, 1998). On the other hand, more and more corporate identity consultants refer to identity as "what the organisation is" (Balmer, 1995). As a result, it is a mix of elements which together indicate an organisation's distinctiveness; it should be unique and spring from the roots of the organisation (Balmer, 2001; Olins, 1989, pp. 7).

As the interdependency among countries has increased, a new economy which is global and informational has developed since the middle of the 1970s. This global economy works as a unit, on real time, and on a planetary scale; capital flows, labour markets, commodity markets, information, raw materials, management, and organisation are internationalized and fully interdependent throughout the planet (Castells, 1994; Castells, 1996, pp. 67-150). Through globalization, a corporation can produce its products at the lowest cost and sell them in the world market. For consumers, they have a wider choice of products and are often able to obtain them at a cheaper price. Aside from this, globalization has increased competition among corporations, especially product-based companies. "Only corporations making highly competitive products will survive", Olins points out, products from major companies have become increasingly similar in the last two decades. A company's unique identity becomes the most important factor in making a customer more predisposed to its product (Olins,

1989, pp. 9). Moreover, he further points out that it is the product that is the most significant element in the identity mix for a manufacturer. He offers Sony as an example:

> "Test the theory. When you think of Sony, what do you recall first? Not Mr. Morita, its peripatetic, outgoing, English-speaking, speech-making, book-writing chief executive. Certainly not its advertising, nor the dreary wasteland of electronic hardware shops through which its products are sold. Not even its symbol and logotype, if you can remember them. No. You think of its apparently endless range of brilliantly innovative products, and most particularly the Walkman. Sony's identity is largely conditioned by its products." (Olins, 1989, pp. 29)

In the following section, I discuss the terms of Corporate Communication theory. However, I should begin by saying that there is a lack of a single consensual view in this area among the scholars from different disciplines (as also observed in the foreword by Olins, in van Riel, 1995). Indeed, despite voluminous literature in this area, there are not even universally accepted definitions (Alessandri, 2001; Balmer, 2001; Dolphin, 1999, pp. 41). Study of corporate communications is an evolving, multi-disciplinary area enriched by contributions from scholars in such disciplines as graphic design, management and marketing. It is also enriched by accounts of different cultures, including North America, UK, Central Europe, and Japan. Balmer has done a great deal of work in describing this state of affairs and has listed the major factors that contribute to the discrepancies as well as the problems that arise from them (Balmer, 2001).

Despite differences in terminology and the elements that different scholars emphasise, I first present an overview of the main concepts in this area. Next, I look at the history of this area over the last five decades. After that, I present difference in approaches to this in the Western and Eastern world that seem to be related to differences in culture and corporate structure. Lastly, current progress in this area is discussed.

3.1.1 Main concepts in Corporate Communication.

Overviews of the main concepts of corporate communication theory can be found in the following: Corporate Identity (Balmer, 1998); Organisational Identity (Whetten and Godfrey, 1998); Visual Identity (Chajet and Schachtman, 1998); Corporate Image (Grunig, 1993); Corporate Personality (Olins, 1978); Corporate Reputation (Fombrun and Van Riel, 1997); Corporate Communications (Van Riel, 1995); Total Corporate Communications (Balmer and Gray, 1999) and Corporate Brand (Macrae, 1999). Balmer has also done a good summary on these in his most recent work (Balmer, 2001). I organise terms and concepts into a graphic presentation (figure 3-1) to facilitate the illustration of their relationships.

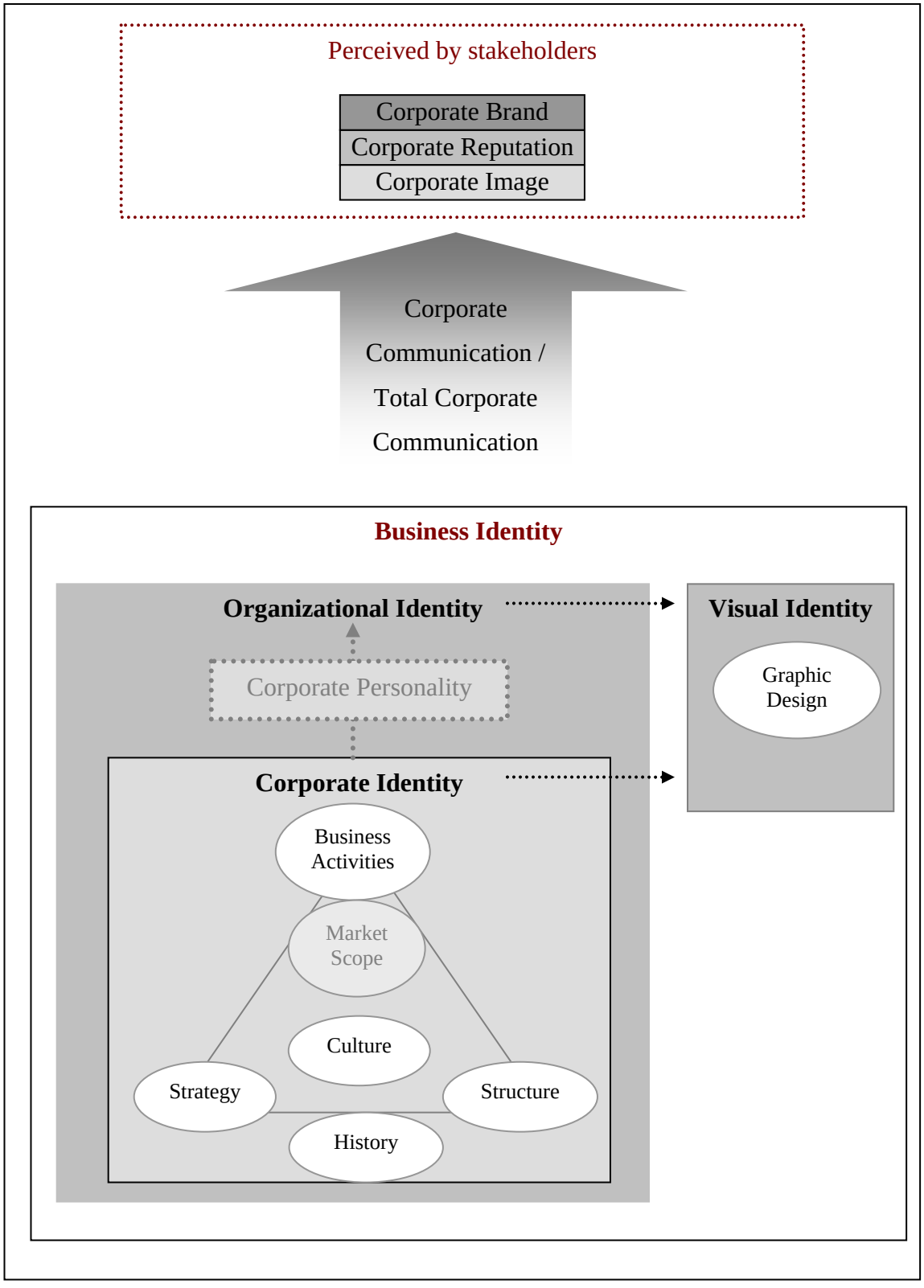

Figure 3-1: Illustration of the relationships between term and concepts in Corporate Communication Theory.

a) Business Identity

The term "Business Identity" encompasses three main concepts and literatures: Corporate Identity, Organisational Identity and Visual Identity. This identity is viewed as encompassing institutions in the public, not-for-profit and private sectors as well as supra and sub-organisational identities such as industries, alliances, trade associations, business units and subsidiaries.

b) Corporate Identity

This is the foundation of Business Identities which gives distinctiveness to an organisation. Although there is a lack of consensus as to the characteristics of a Corporate Identity, it includes the following elements in most descriptions, especially those undertaken from a marketing/communications background: culture (with staff seen to have an affinity to multiple forms of identity), Strategy, Structure, History, Business Activities and Market Scope.

c) Organisational Identity

This is a key element which gives distinctiveness to an organisation. It refers to what employees feel and think about the organisation and thus it has a close relationship with Corporate Culture. It has many similar characteristics with Corporate Personality and Corporate Culture.

d) Visual Identity

This is the means by which Business Identity can be known, made visible and disguised. This is a business identity which can be effectively controlled by senior management. There are four main functions: (1) signal change in Corporate

Strategy, (2) signal change in Culture, (3) signal change in Communication and (4) changes in fashion with regard to Graphic Design.

e) Corporate Personality

This is a key element which gives a Business Identity its distinctiveness and relates to the attitudes and beliefs of those within the organisation. It is a cultural mix of corporate, professional, regional and other sub-cultures in organisations. It links up with the Organisational Identity and to the Corporate Culture and having similar characteristics with both of them.

f) Corporate Reputation

Acquisition of a favourable corporate reputation among key stakeholder groups is believed to give the organisation a competitive advantage. Compared with Corporate Image which focuses on the latest beliefs about an organisation, Corporate Reputation is the perception of an organisation that is built up over a period of time and focuses on what it does and how it behaves.

g) Corporate Brand

Acquisition of a favourable Corporate Brand is an espoused objective and is derived from the Organisation Identity. It consists of a mix of elements like Cultural, Intricate, Tangible, Ethereal and Staff Commitment. This concept is related to the concepts of Corporate Reputation and Corporate Image which are also to some degree concerned with perception.

h) Corporate Image

Creating a positive image is another objective in the Corporate Communication process. There are three broad, disciplinary paradigms from which a corporate image is drawn: Psychology, Graphic Design and Public Relations. This concept is often confused with Corporate Identity since most practitioners from the graphic design paradigm treat Corporate Image as being the same as Corporate Identity.

i) Corporate Communication / Total Corporate Communication

These are all the channels by which a business identity is made known to internal and external stakeholders and networks and which translates over time into the acquisition of a Corporate Reputation or Corporate Brand Reputation.

3.1.2 Development history of Corporate Communication.

As mentioned above, this area is evolving and the discipline mix, national contributions and development focus continue to change. At the early stage, during the 1950s to 1960s, most of the literature was from practitioners and North Americans were particularly influential in this period. Most of the literature concentrates on visual aspects and focuses on the Corporate Image. Later, in the 1970s to 1980s in the UK and Europe, more academics in various areas -- such as management, marketing, organisational behaviour and psychology – started to look into this area. They focused on the processes involved in the formation of Corporate Identity, Personality and Image. At the same time, academics began to articulate the relationship between these different concepts. The British and Europeans were more concerned with internal environments and stakeholders,

whereas the North Americans were more concerned with external environment and stakeholders. Recently, the focus has shifted to consideration of the acquisition of Corporate Reputation. However, some academics have also began to take a macroscopic view on this area, examining how a Corporate Brand is built and how the corporation is marketed as a distinct entity (Balmer 1989; Balmer 2001).

There is a large literature in this area. However, due to the lack of communication and co-ordination among the scholars, much of them are speaking of similar concepts but in different terms (Balmer 1989; Balmer 2001, Fombrun and van Riel, 1997, Grunig, 1993). As mentioned before, numerous overviews of the concepts have been done already. In the following sections, I try to present some important works by practitioners and academics.

3.1.2.1 Practitioners

Practitioners tend to focus on more easily grasped elements of an organisation's identity, such as Visual Identity, Communications and Graphic Design (Ackerman, 1988; Bernstein, 1984; Olins, 1989; Schmitt et al., 1995; Siegel, 1988). In the main, practitioners adopt a "process" view of corporate identity programmes and regard it as the means by which the corporate vision, or new corporate strategy, can be communicated to key internal and external stakeholders.

1) Practitioners focus on Corporate Image.

Most practitioners look for ways to build up a good corporate image with proper corporate identity management. However, there are different

interpretations on the concept of corporate image. According to Balmer, there are three paradigms for corporate image: Psychological Paradigm, Graphic Design Paradigm and Marketing Paradigm (Balmer, 1998).

Psychological Paradigm focuses on a symbolic relationship between an organisation and its stakeholders. Bristol takes the view that a Corporate Image is the picture that the organisation has created in the minds of the public (Balmer, 1998). Grunig relates the Corporate Image to a mental image or idea that is a visual, sensory or spatial analogy of reality (Grunig, 1993). Visual and tangible materials are media which help to reflect the organisation to the stakeholders' perception. There are more meanings to the stakeholders behind the symbols or corporate name.

Graphic Design Paradigm is similar to the psychological paradigm but with an emphasis on the graphic design aspect. It tries to influence perception of stakeholders by the use of graphic design. Practitioners try to articulate invisible components of a corporation, like Corporate Mission, Philosophy, Cultural Values, in graphic forms. North America had a strong influence on this paradigm during the early period (Balmer, 1995).

Marketing Paradigm treats Corporate Image as an understanding of the experiences, beliefs, feelings about and knowledge of an organisation (Bernstein. 1984). Unlike the other two paradigms where the organisation actively conveys an image to the stakeholders, in this paradigm the organisation is in the passive position where the image is based on the perception of the stakeholders.

Most of the practitioners belong to the Graphic Design Paradigm (Alessandri, 2001). However, it is noted that many corporate identity consultants from the graphic design field have mixed up Corporate Image, Visual Identity and Corporate Identity. Research has been conducted in the UK and Europe which shows that a significant numbers of mangers still equate corporate identity with graphic design (Balmer 2001; Schimidt, 1995). To avoid confusion, one should make clear that an identity is a mixture of distinct features underpinned by a concept that gives a primary differentiation; we view identity through a corporation point of view. An image, however, is the perception held from outside, it is viewed from stakeholder's prospective. In another word, identity and image actually refer to the same but from different point of view.

2) Some authorities

a) Elinor Selame and Joe Selame

Selame and Selame are practitioners in North America who hold an *original* graphic design paradigm. They point out that instead of being a graphic gimmick, Corporate Identity is deeper than a symbol and is a "long-term visual marketing strategic weapon" (Selame and Selame, 1988, pp. 8). Through planning and systematic implementation, Corporate Identity can be a visual expression of the corporation as it sees itself and as it wishes to be viewed by others. Their works are focused on the design of appropriate name, packaging and symbolic logic like trademark and logos. Corporate identity is conveyed to stakeholders via visual graphic design (i.e. Visual Identity) that serves to build up the Corporate Image. Their view of the Corporate Identity is, however, limited to the visual level.

b) Wally Olins

In contrast, Wally Olins, a British practitioner, is an exception among the practitioners. He has a wider view on the identity of a corporate and he treats "everything" that pertains to an organisation as being relevant to its identity. He points out that Corporate Identity can be divided into two components: visible and invisible. Visible components include tangible objects like products, buildings, advertisement, etc. Invisible components include how the organisation behaves towards its own staff and everybody with whom it comes into contact (i.e. its stakeholders). For example, how the organisation looks at selling, purchasing, human development, internal politics, etc. (Olins, 1989, pp. 7-9). At the same time, all of the activities that the organisation does everyday in its environment, no matter whether this concern external customer or internal staff, are forms of communications. There are four major areas of activity: Products/Services (e.g. what kind of thing the company is making or selling); Environments (e.g., where are the products made or sold); Information (How the company describes and publicizes what it does) and Behaviour (How do the staff behave to each other and to outsiders) (Olins, 1989, pp. 9, 28-45). Moreover, he distinguishes three kinds of Corporate Identity structures: Monolithic (i.e. whole corporation uses one visual style), Endorsed (i.e. a corporation has a group of subsidiaries which it endorses with the group name and identity) and Branded (i.e. a corporation operates through a series of brands, which may be unrelated to each other). A corporation can reveal their strategy by proper structure management (Dolphin, 1999, pp. 47-48; Olins, 1989, pp. 77-145).

Compared with other practitioners, Olins places stress on the importance of internal communication. He points out that a distinct Corporate Identity not only can improve the understanding of the company by its staff, but it can increase their sense of belonging as well (Olins, 1989, pp. 7). He proposes the term "Corporate Personality" as a metaphor to describe a hypothesis that organisations in their formative years often mirror the personality of the organisation's founder and this becomes a distinct culture within the organisation. As time goes by, the culture reflects the behaviour of the staff at different levels or in different locations. The collective mix of subcultures becomes a unique characteristic of the corporation, like the personality of an individual (Olins, 1978). We can observe that this is somewhat similar to 'Organisational Identity' in the academic field (Whetten and Godfrey, 1998). Olins' identity mix starts to blend the descriptions of practitioners and academicians.

3.1.2.2 Academicians

The increasing importance of Corporate Identity from the 1950s to the early 1970s attracted the interest of academicians. They looked into the matter from a business perspective and viewed Corporate Identity as a strategy management tool.

1) Academics focus on management.

Most academicians have a marketing background and tend to adopt a more formal structural approach to Corporate Identity and focus on those organisational characteristics that make any organisation distinct. This has resulted in a far wider palette of elements being considered than that offered by practitioners (Balmer,

1995; Balmer 1998; Van Riel, 1995; Whetten, 1998). Some academicians emphasise certain elements which are not usually mentioned by practitioners, such as the influence of leadership style as a key variable relating to an organisation's identity (Balmer and Gray, 1998; Van Riel, 1995). Compared with the practitioners, the literature of academicians is more structural and systemic. The output is often packaged as a tool that can be implemented by management (Balmer and Soenen, 1999; van Riel and Balmer, 1997).

2) Some authorities

a) Cees B.M. van Riel

Van Riel is a scholar from the Netherlands who treats Corporate Identity as a tool. He defines Corporate Communication as a mutually established strategic framework, in which all communication specialists integrate the totality of the organisational message (Van Riel, 1995). Compared with Balmer (below), van Riel conducts research on the corporate identity in a microscopic way by looking into every element involved in the frame and gives definition to them. Moreover, he also provides a step by step guideline for management on how to carry out Corporate Identity in an organisation (Van Riel, 1995, pp. 114-74).

b) John M.T. Balmer

Balmer is a British scholar with a marketing background and he is probably one of the most productive scholars in this area. He treats Corporate Identity as a fusion of strategy, behaviour (culture) and communications. It is not the preserve of any one discipline, but instead draws from several (Alessandri, 2001, Balmer and Gray, 1999). Instead of offering solid operational definitions for

the terms, he conducts an intensive review of the literatures and has defined eight concepts (as presented in section **3.1.1**, above). At the same time, he tries to break down the boundaries between different research paradigms so that scholars from different disciplines can work together. He looks to a broader interpretation encompassing company structure (Balmer, 2002b) (As indicated in figure 3-2.) Recently he has tried to blend Corporate Identity management with marketing (see further section **3.1.4**).

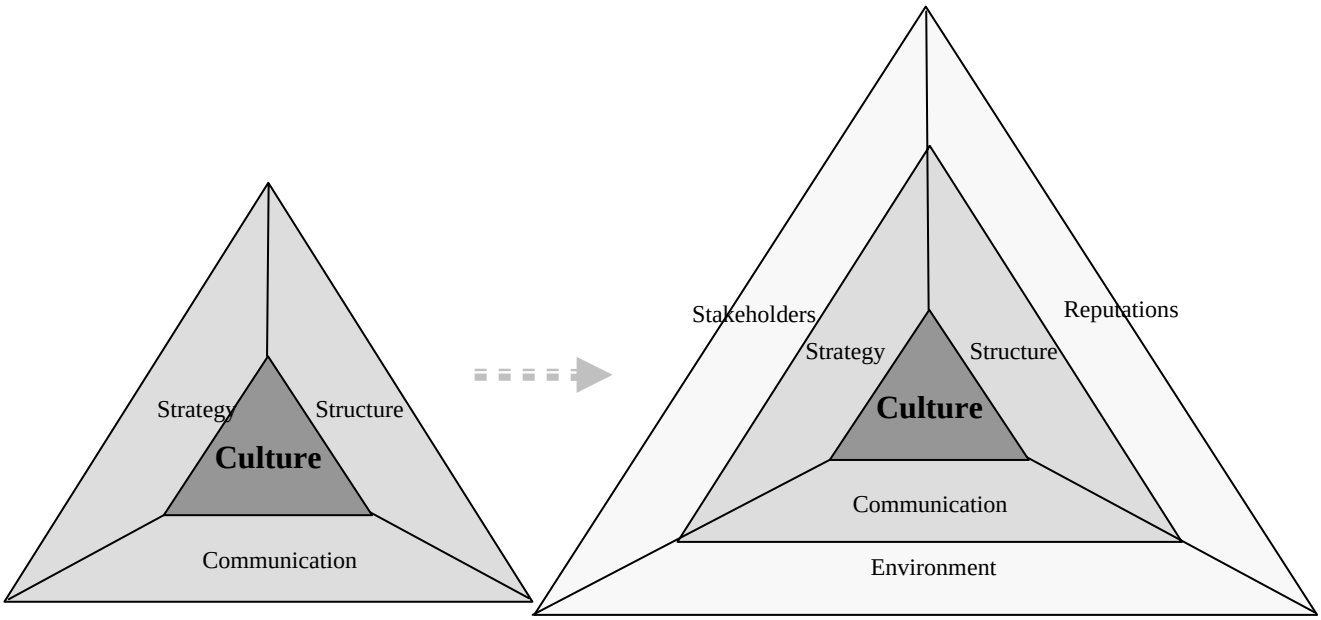

Figure 3-2: Balmer's new mixes: (a) Corporate Identity Mix,

(b) Corporate Identity Management Mix. Adapted from Balmer, 2001

3.1.3 National and Cultural Aspects.

Different countries and regions have their own understanding of Corporate Communication theory and have already developed different models. Here, I present two major models developed both for Western and Eastern.

3.1.3.1 Differences in Organisational Structures.

Balmer has pointed out a structural difference between Western and Eastern countries (mainly, here, Eastern countries are refer to Japan and South Korea). Anglo-Saxon forms of business, which are characterized by short term-ism and where shareholders are accorded particular importance, dominate most of the western countries. On the other hand, Asian organisational structure is far more complicated. For example, Japan's keiretsu structure contains a number of member groups that co-operate with each other. It has a leading group of companies within, and it contains a commercial bank, a trust bank and a life insurance company which provide financial support to the members of the keiretsu. Each group has a trading company which supports its member in matters like intelligence and project management. The members of the group are cross-shareholding and thus hard to take-over by outsiders. The members will provide support to troubled units in time of crisis. The chaebol structure of Korean corporations is similar to the keiretsu except the corporation is usually managed by the founding family and doesn't contain powerful financial institutions or trading companies (Balmer, 2001). As a result, literature based on the Anglo-Saxon structure may be inappropriate for some developed Asian counties, such as Japan and South Korea.

3.1.3.2 Asian (Japanese) Model – the Mitsubishi mix.

As Corporate Communication theory introduced into Asia, Japanese companies developed it influenced by their culture. A Japanese style of Corporate Identity was formed. Here, I present the Mitsubishi model[45]. This model is called Asian model because of its Asian origin. And this model has been seen widely studied and adopted by Western companies.

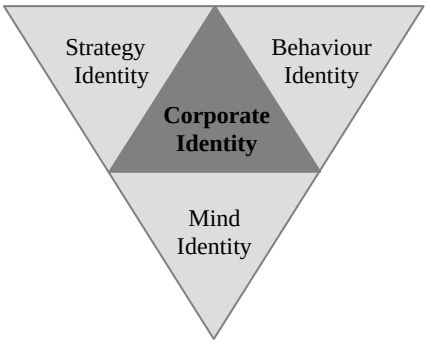

Figure 3-3: Mitsubishi Mix.

Concluded from the general concepts presented in Balmer, 2001

There are three identities in the Mitsubishi mix (see figure 3-3): Mind Identity (what the organisation is striving to achieve), the Strategic Identity (the type of strategy which will cause the Mind Identity to become a reality) and the Behaviour Identity (the range and types of behaviour undertaken by the organisation) (Balmer, 2001; Steidl and Emory, 1997, pp. 4-5). There are other different mixtures in Japanese or Asian companies. In an Asian CI model, it is very clear that the organisation places a greater emphasize on the spirit of the

[45] Mitsubishi is Japan's industry leaders in several sectors, including marine transport, aircraft manufacturing, shipbuilding, nuclear power engineering, etc. It has branches worldwide.
http://www.mitsubishi.com/e/group/about.html

company itself. Johansson and Hirano also point out that there is a higher degree of parallelism between individual and corporate objectives than in the West (Johansson and Hirano, 1999).

3.1.4 Current Corporate Communication Research.

a) Interdisciplinary co-operation

Instead of independent development as in the past, scholars from various disciplines and nations are increasingly working together and a measure of integration is emerging in discussions of corporate communication and identity. As a result of the great variations among them (Balmer, 2001), both academics and practitioners have realized that defining identity can be problematic (van Riel and Balmer, 1997). Indeed, an organisation called the International Corporate Identity Group (ICIG) has recently been formed with a mission to address this. It includes academics from European and American business schools, together with leading consultants. The group has agreed not to give a definition to corporate identity but to seek a statement which articulates the multidisciplinary nature of the area and its difference from brand management.

b) Corporate Marketing Mix

Recently, Balmer proposed the term “Corporate Marketing” to describe the development of Corporate Communication and Corporate Identity. He foresees this area will evolve into a distinct cognate area of management, and he tries to encompass all elements, like the marketing concept as it is applied at the

corporate level. He applies the basic tenets of marketing by extending the 4Ps to 10Ps[46] (Balmer, 1989; Balmer, 2001).

3.2 Design Management and Product Identity.

As identity is increasingly involved with design, management and strategic terms, other theories that product identity involved in as seen is Design Management. Here, in this section, I take a brief glance of Design Management theory, try to find some attentions in the context of product identity.

3.2.1 Historical Development of Design Management

Been established in 40's, Design management is now regarded as one of the most curical theories accorss both management and design disaplines. It refers to an approach whereby organizations make design-relevant decisions in a market and customer-oriented way as well as optimizing design-relevant (enterprise-) processes. It is a long-continuous comprehensive activity on all levels of business performance. Design management acts in the interface of management and design and functions as link between the platforms of technology, design, design thinking,

[46] The basic tenets of marketing including of Product, Price, Place and Promotion (4Ps). In Balmer's new marketing model, he presented ten elements which consist of Philosophy, Personality, People, Product, Price, Place, Promotion, Performance, Perception and Positioning (10Ps).

management and marketing at internal and external interfaces of the enterprise (Farr, M. 1966).

The roots of design management go back into the 1920s with AEG[47] and the 1950s and 1940s with Olivetti[48] (Farr, M. 1966). Design management was used as a term for a long time, but thereby not understood correctly. The development of Design Management inculding of four stages (Bruce, M.; Cooper, R. 1997).

1940s

Design as a function within corporations, or as independent consultancies have not always collaborated well with business. Clients and the market have traditionally viewed design as an expressive and production function, rather than a strategic asset. Designers have focused their skills and knowledge in the creation of designed artifacts, and indirectly addressed larger issues within this creative process. Designers have been uneasy about articulating their value to business in terms that business could understand. There were moves to bridge this gap. In England, the British Design Council was founded in 1944 by the British wartime government as the Council of Industrial Design, with the objective "to promote by all practicable means the improvement of design in the products of British industry".

[47] AEG (Allgemeine Elektrizitäts-Gesellschaft) (English Translation: General Electricity Company) was a German producer of electronics and electrical equipment. It was founded in 1883 by Emil Rathenau who had bought some patents from Thomas Edison. AEG manufactured a range of aircraft from 1910 to 1918. In 1967 AEG joined with Telefunken and in 1969 they started working with Siemens AG. In 1985 AEG was bought by Daimler-Benz. In 2005 Electrolux bought the brand name. Today several former departments of AEG still exist and use the AEG name.

[48] Ing. C. Olivetti & Co., SpA. is an Italian manufacturer of computers, printers and other business machines.

1950s

Chicago industrialist Walter Paepcke of the Container Corporation of America founded the Aspen Design Conference in the United States after World War II as a way of bringing business and designers together – to the benefit of both. In 1951, the first conference topic, “Design as a function of management,” was chosen to ensure the participation of the business community. After several years, however, business leaders stopped attending because the increased participation of designers changed the dialogue, focusing it not on the need for collaboration between business and design, but rather on the business community’s failure to understand the value of design. While designers were trying to make connections to the business community, there were business people that were trying to make connections to the design community. Individuals from both communities began making connections between the goals of business and how design could be a subject in the management suite. Design management's foundations are European in nature and one of the strongest early advocates was Peter Gorb, former Director of the London Business School's Centre for design management.

1960s to 1970s

In 1966 the term design management was mentioned in the Anglo-American literature by Farr (Farr, M. 1966). Design management focused on how to define design as a business function and provide the language and method of how to effectively manage it. In the late 1960s and into the 1970s Gorb and others began to write articles that were drafted to designers to learn about

business, and to business professionals to understand the untapped potential of design as a critical business function.

In 1975 the Design Management Institute (DMI) was founded in Boston and developed following the Harvard Business School. The DMI is an international nonprofit organization that seeks to heighten awareness of design as an essential part of business strategy and become the leading resource and international authority on design management. Economical faculties used the possibility first (after some books regarding this topic were published) of establishing economical courses of studies for design management. Slowly also design faculties followed to take up studies for design management into their academical curricula. Apart from the economical and design-oriented courses there are today also pure master courses in design management (the Westminster university was one of the first in Europe) as well as co-operation programmes, like the International Design Business Management Programme in Helsinki (co-operation programme of universities from design, technology and management). In the late 1970s design management refers to the movement in Great Britain, Europe and America, which focusses on designresources in corporate business.

1980s to today

At the beginning, design management was seen by many only as short-lived fashion, but over the time it was going to be established. This procedure was supported by the increasing role of the design within the development of social, economic, ecological, technological and cultural processes. And design management got more important through the change from a strategy

of cost leadership, over the quality leadership to the strategy of performance leadership" (Koppelmann, U. 2005). Today, one has to understand design in its entire, contemporary spectrum and thereby not be reduced on linear areas (product design, communication design, industrial design, etc.). Any adjustment of design to certain fields of work would not deal fairly with the social and economic task of design in any way. Design management intervenes here, organizes, mediates and structures in an increasing more complex enterprise and economic world.

3.2.2 Different Views of Design Management

Design management is no model that can be projected on any enterprise, no application with linear functionalities and no specific way that leads to success. Rather design management processes are accomplished by humans with different authorities and trainings, who work in different fields of enterprises with different sizes, traditions and industries and they have very different target groups and markets to serve. The design management topics show an overview of the spectrum what design managers deal with. Many agencies are limited to subranges and supplement thereby their classical applied design range.

Design Management and Marketing

Design management and marketing have many common intersections. In the marketing, which was developed in the 1960s, design became ever more important. In the beginnings design was understood as a marketing instrument, it further developed itselves and today it can be seen on the same level then management. Today's management theories speak of equal partnership between

marketing management, product management and design management (Design Management Institute ,1998 and Farr, M 1966).

Design Management versus design leadership.

In the every-day-business design managers often operate in the area of design leadership. But design management and design leadership are not interchangeable. Like the differences between management and leadership they differ in their objectives, achievements of objectives, accomplishment and outcomes. Design leadership is pro-active it leads from a vision, over the communication, the convey of meaning and collaboration through motivation, enthusiasm and attaining of needs, to changes, innovations and creative solutions. Thereby it describes the futures needs and chooses a direction in order to get to that described future. In contrast, design management is re-activ and is responding to a given business situation by using specific skills, tools, methods and techniques. Design management and design leadership depend on each other, design management needs design leadership to know where to go and design leadership needs design management to know how to go there.

3.2.3 Three Ranges of Design Management

Design management can be divided by its different fields of application into the three ranges: operational design management (Oakley. M, 1984; Olins. W,1985; Topalian. A, 1980; Mozota. B.d, 2003), functional design management (Mozota. B.d, 2003) and strategic design management (Oakley. M, 1984; Olins. W, 1985; Topalian. A, 1980; Mozota. B.d, 2003). By French researcher Borja.

M's suggestion, it can be divided additionally into the eight levels of strategy, planning, structure, finances, human resources, information, communication and research & development (Borja de Mozota, 2003).

a) Operational design management

The goal of operational design management is to achieve the objectives set in the strategic design management part. It deals with personal leadership, emotional intelligence and the co-operation with and management of internal communications. The operational design management is defined when:

- In startegy level, translate visions into strategies and define the role design plays in the brand.
- In planning level, translate strategies into a design brief; make decisions about product quality and consumer experiences; define policies for design, products, communication and brands.
- In structure level, select external design agencies/individuals; create alliances; define who will in touch with designers; create an atmosphere for leadership and creativity.
- In finaces level, managing design project budgets, estimate design costs and shift investments from cold-spots to hot-spots.
- In human resource level, develop competences.
- In information level, advise of product managers and CEO's.
- In communication level, create symbioses between universities and other companies; create an understanding of company's goals among designers.

- In R&D level, create design criteria and standards of valuation for design.

b) Functional design management

In functional design management, it is to create a structure for design in the company. It includes the managing of design departments and fills the gap between operational and strategic design management tasks. The following list shows what the functional design management is.

- In startegy level, coordinate design strategy with the departments of marketing, communication and innovation.
- In planning level, define quality policy; structure design/management tools and language; introduce and improve general design processes; adapt design processes to innovation processes.
- In structure level, implement a design in-house service; stabilize the role of design in the innovation process.
- In finaces level, manage to meet the budget.
- In human resource level, create an understanding of design among the company partners.
- In information level, create marketing, design and production plans.
- In communication level, organize the design language across all design disciplines; create an understanding of and attention on conscious decisions on all levels of the enterprise.

- In R&D level, transformation of design theories into practical research tools.

c) Strategic design management

The goal of strategic design management is to support and strengthen the corporate strategy, to create a relationship between design, strategy and the identity/culture of the company. It controls the consistency of design in the company, allows design to interact with the needs of corporate management and focuses on design's long-term capabilities. The following list shows what the strategic design management is coping with:

- In strategy level, define a business strategy which includes design goals; define design strategies which are linked to the enterprise strategy.
- In planning level, manage design projects; create design standards.
- In structure level, create an atmosphere for leadership, design and creativity; support corporate strategy with design tools.
- In finaces level, secure a budget, high enough to be able to apply the design strategy.
- In human resource level, influence the hiring and the managing of designers.
- In information level, inform about the design mission/vision in the company.
- In communication level, implement design thinking in the top management level; articulate explicit and implicit communications,

which reflect the enterprise values; plan, introduce and improve means of communication on all channels to the figuration of the total brand experience towards the customer.

- In R&D level, create links between technology-development and design.

Short Summary

Design Management has definitely some cues link to product identity. In all these three different ranges of design management, though no product identity is directly discussed, the describes of some contents, such as defining policies for product design, creating design criteria and standards of valuation for design, defining quality policy, structuring design tool and design language, organizing design language across all design disciplines, etc. all these characteristics show design management is using management help to standardize design outcomes by define some design standards. Product identity is clear as a part of it.

3.3 Brand Management and Product Identity.

3.3.1 The origin of Brand Management

Brand management as a business technique is regarded as one of the signal innovations during the twentieth century. The shift to brand management began

on May 13, 1931, with an internal memorandum from Neil McElroy[49] (1904-1972), an athletic young man who had come to P&G[50] in 1925 right after his graduation from Harvard College.

Though McElroy's memo is just three pages, the content of the memo made good sense, and its proposals, were approved up the corporate hierarchy and endorsed with enthusiasm by top managmnet. His concerns inculidng of: company should concentrate on its core brand and then extend to other brands; should have the different marketing startegy for each differnet target comsumer group; and therefore would become less competitive with each other, etc. It epitomizes the persistent theme of balancing centralized oversight with decentralized decision making based on who in the company had the best information about the decision at hand. Over the years, "product differentiation," as businesspeople came to call it, would develop into a key element of marketing. It is still widely emulated, followed by many consumer-products companies throughout the world.

3.3.2 Some Contents of Brand Management Link to Product

After over 80 years practice and development, especially, after 1988, “the year of Brand” – declared by Macrae and Uncles (1997), Brand Management theory has become considerably more complex by expending into a broad of

[49] Neil Hosler McElroy (1904 - 1972) was United States Secretary of Defense from 1957 to 1959 under President Eisenhower. He had been president of Procter & Gamble.

[50] Procter & Gamble Co. (P&G, NYSE: PG) is an American global corporation based in Cincinnati, manufactures a wide range of consumer goods.

contents from vary perspectives. Over the years, articles from Brand Management journals increasingly illustrate that the range of branding concepts continues to expand: brand equity, naming, cause-related branding, tourism branding, salience, brand extensions, brand attitude, piracy, brand familiarity, brand congruency, etc, are all discussed in recent issues.

Here, I only choose to discuss some terms which link to product. The reasons are two. Firstly, alike Corporate Communication theory, there are no clear authorized definitions for all these branding terms, and more over, there is always a criticism towards each major terms (Colin Jevons, 2005); secondly, there is no necessary to talk about all these terms here as we are mostly talking about product.

But before, I would like to present some understandings of what is a brand in the context of product. What is a brand? Lots of marketers see a brand as an implied promise that the level of quality people have come to expect from a brand will continue with present and future purchases of brand products. This may increase sales by making a comparison with competing products more favorable. It may also enable the manufacturer to charge more for the product. In terms of product, Brand management is the application of marketing techniques to a specific product, product line, or brand. It seeks to increase the product's perceived value to the customer and thereby increase brand franchise and brand equity (David F. D'alessandro and Michele Owens. 2001). Though there are always arguments of what is a brand, Colin Fevons (2005) pointed out that there does exit clear agreement that the brand itself means something to consumers, means to distinguish a product from its unbranded counterpart through the sum

total of consumers' perceptions and feelings about the product attributes and how these attributes perform; in practical terms, brand means the identity of product is branded becomes clearer to both the managers and consumers. At the same time, he also commented that this understanding is limited a simulation to the mass communications as "advertising" (something exterior) - which conceals a gap between tangible and intangible identities.

In Brand Management, brand touch-point probably is the most popular word in terms of branding.

What's brand touch-point? It is all of the different ways that a brand interacts with and makes an impression on customers, employees and other stakeholders (such as suppliers/vendors, management/investors, partners, prospective members, educators, media, etc). Every action, tactic and strategy that brand has with customers or stakeholders, whether it is through ads, a merchandising display or services, is a brand touch-point. In the most common way, brand touch-points are classified into three distinct segments based on customers' experience: pre-purchase experience, purchase experience and post-purchase experience. Touch-point shows how to differentiate a brand by designing and managing the appropriate Product, System and interactions in the appropriate blend customers.

Now, I will discuss some terms which seem to me have some cues link to product and product identity. They are list below:

a) Brand Equity

Very common, brand equity has been described as the added value endowed by the brand to the product (Srinivasan, 1979; Faruhar. P, 1989; Kamakura and Russell, 1993; Keller, 1993; Simon and Sullivan, 1993). The idea of using a name or symbol to enhance a product's value has been brought to the forefront in the recent years. Also, brand equity exists in most categories as a result of "copycat" or look-alike advertising and the proliferation of me-too brands (Aaker, 1991; Cobb-Walgren et al,. 1995). These related issues led to the price competition and reduce of profit of brand. Thus, managers try to examine ways to enhance loyalty or brand equity toward brands. Other issues such as the escalation of new product development costs and the high rate of new product failures has led companies seek ways to acquire or license, or, extend brand names to a degree that was once unimaginable (Aaker, 1991) (please also see brand extension below).

Brand equity links to product, however, product can not represent brand. Farquhar (1989) and Cobb (1995) already pointed out that a product is something that tends to offer a functional benefit, whereas a brand is a name, symbol, design, or mark that enhances the value of a particular product or service.

How to measure brand equity is another important study of it. Some authors (Louviere and Johnson, 1988; Yovovich, 1988; Sharkey, 1989; MacLachlan and Muilhern, 1991), would like to treat brand equity as brand name, importance, as the name of a brand is often core indicator. The most popular way is using Financial World (FT) in its annual listing of world-wide brand valuation found by financial specialists based on stock prices or brand replacement (Ourusoff, 1993). The one links to the product is what Aaker (1991) uses

consumer preference ratings for a branded product versus and unbranded equivalent. In addition, Chris A. (2003), proposed that the equity of brand can be measured by the impact of brand equity and the attributes on brand preferences. Product is one of the very important tangible attributes.

b) Brand Extension and Product Expansion

Brand extension is a marketing strategic tool in which a company that markets a product with a well-developed image uses the same brand name but in a different product category (Leslie de C. 2006). Brands use this as a strategy to increase and leverage equity (which refers to the net worth and long-term sustainability just from the renowned name). It increases awareness of the brand name and increases profitability from offerings in more than one product category. However, a brand's "extendibility" depends on how strong consumer's associations are to the brand's values and goals. Brand often emphasize its key attributes, the cleaning and deodorizing properties of its core product, then it is easier to leverage those attributes into new categories with success. Thus, Park pointed out that as brands over time strengthen and reach the fortification stage (Park et al., 1986), brand extensions have proven to be a highly successful marketing strategy for profiting on the established brand image. Through launching new products under the parent brand, brand managers may gain several advantages: Not only are new products launched effectively and cost-efficiently, but the extended brand product may also help revitalize the parent brand or flagship products (Supphellen et al., 2004). While there can also be significant risks, resulting in a diluted or severely damaging a brand image.

Product expansions, on the other hand, are different versions of the same parent product that serve a different segment of the target market and increase the variety of an offering. An example of a product extension is Coke vs. Diet Coke in same product category of soft drinks.

c) Brand Personality

There has been a burgeoning interest in the subject among marketing academicians and practitioners. Marketing researchers have investigated how brand personality encourages brand self expression and association (Belk, 1988; Kleine et al., 1993; Malhotra, 1981), and practitioners have specially concern about the utility of brand personality in terms of product differentiation (Biel, 1992 and 1993; Halliday, 1996). For the very common agreement, Aaker (1997) defines brand personality as “the set of human characteristics associated with a brand.” and documents a stable set of personality dimensions that are thought to underlie the construct.

Researchers suggest that numerous benefits may accrue to brands with strong, positive brand personalities. A part from increase consumer preference and usage, increase emotions in consumers, increase levels of trust and loyalty, encourage active processing on the part of the consumer, Aaker believes it can provide a basis for product differentiation (Aaker, 1996).

Some researchers agree that consumers use a brand’s personality to express themselves, and that some brand personalities can safeguard a brand against marketplace blunders and enhance brand name transferability to extensions in new product categories (Aaker, 1999; Batra et al., 1993; Haigood,

1999; Phau and Kong Cheen, 2001). There is a clear need to investigate the impact of brand personality on both individual-level and product-level.

In Sekuler and Blake's (1994) description of four ways in which knowledge may influence one's perceptions, the third way --- "by guiding acquisition of sensory data", is particularly useful for explaining how knowledge about a brand's personality might affect product perceptions. Then they further suggest that a given product has intrinsic and extrinsic cues that have an impact on perceptual processing. Intrinsic cues typically involve the physical composition of a given product. They cannot be changed without altering the nature of the product itself and are consumed as the product is consumed. Extrinsic cues are product-related but not part of the physical product itself (i.e. they are outside the product). For example, brand name is an extrinsic cue frequently used as a surrogate for intrinsic product attributes when the consumer is operating without adequate information about intrinsic product attributes.

3.3.3 Major Challenges in Brand Management

One of the challenges is to have a really clear definition of all the terms in Brand Management --- the same problem as I mentioned in Corporate Communication and Design Management theories before. Despite all these definitions, the clear delineation of brand personality still remain somewhat vague and indistinguishable from other constructs such as brand image or brand identity, they often confuse researchers and practitioners.

While here, another challenge seems to me is more important.

Take the divergence of views in the contemporary brand management literature on the importance of consistency. Managers have long been told that consistency is the key to managing brands successfully in the long term. Park *et al.* (1986) suggested that once the concept of brand is selected, it should be maintained throughout a brand's life for the sake of consistency. Blumenthal (2002) points out --- the difficulty is that this creates an inherent paradox in that brands also have to stay relevant in a dynamic marketplace. He also draws on Simmelian theory to offer tactics for managing this paradox (Blumenthal, 2002). Simmel was not in favor of systematization for its own sake, preferring instead to be authentic.

A recurring challenge for brand management is to build a consistent brand while keeping its message fresh and relevant. An older brand identity may be misaligned to a redefined target market, a restated corporate vision statement, revisited mission statement or values of a company. Brand identities may also lose resonance with their target market through demographic evolution. In terms of product, it seems to me very much about how to convey the corporate identity or brand identity into product identity and keep its consistency in a dynamic market.

Branding problems often associated with setting objectives for a brand or product category. It is sometimes difficult to translate corporate level objectives into brand or product level objectives. Therefore, how to convey objective from corporate or brand level to prodcut is significant towards brand building.

Short Summary

Compare to Design Mangement, the context of prodcut in Brand Management is more marketing orientated. Product is considered as a touch-point of brand which interact with stakeholders in the experence acuqsition process. Product identity helps a brand keep its consistency in the espression on brand products.

3.4 Growing Awareness of Product Identity – Case Studies

When Corporate Communication theory was developed, product identity was always present with visual identity (VI), perhaps because of its tangible character (Olins, 1989, pp. 7). Some practitioners considered the product as just a package for CI (Selame and Selame, 1988, pp. 133-156). In the context of over-all corporate design, John Heskett linked product identity with ‘corporate purposes’ and ‘corporate values’ and presented PI as a means for the presentation of a set of values (such as speed, modernity, efficiency) through an aesthetic programme. A comprehensive design policy (contrasted with individualistic design) is built to express these underlying values in this aesthetic programme (Heskett, 1980. pp. 127-144).

As the development of Design Management and Brand Management, it appeared an emerging awareness of product identity. In large organisations and companies, they were perhaps the first to realise comprehensive design policies

and to understand how product identity could contribute to in terms of product development and branding. A remarkable example of would be IBM, which has utilised product identity approaches at different points in its corporate history.

3.4.1 IBM – two moments in PI.

IBM probably is one of the very first large manufacturers to adept PI to its product design. This first occurred in the mid-1950s under the direction of Eliot Noyes who served as the firm's consultant director of design. Under his leadership, IBM evolved a flexible set of standards and design specifications that were used over a sustained period and accommodated technological innovation. These offered an image that was at once contemporary and suggestive of qualitative excellence (Heskett, 1980, pp. 140).

However, despite its success over the ensuing decades, IBM lost initiative in the marketplace in the early 1990s when its personal computers were increasingly shunned by consumers in favour of cheaper clones. It was not clear why anyone should pay a premium for IBM's products anymore. IBM initially responded in a manner that further confused its position in the marketplace by offering a variety of products to meet divergent consumer demand. Design consultants were marginalised in decision-making; design was inconsistent and unfocused. Overloaded products accompanied with ads for each, chaos occurred. The consistency of brand image was damaged. Consumers were confused and profits continued to fall.

The situation was reversed by a powerful return to a certain product design policies were expressed through the design programme led by Richard Sapper, who designed the ThinkPad 700C notebook computer that was launched in 1993. Sapper helped IBM re-establish a flexible and yet continuous notion of product identity that linked together its various product-lines and markets. (Hardy, 1998)

3.4.2 Some current researches of PI.

Here, I present three second hand case studies which might present the recent directions in PI research. These case studies represent some understandings from three different areas: design education area, industrial practical area, and, marketing business area.

3.4.2.1 Product identity in design education.

Toni-Matt Karjalainen, a researcher of TAI Research Centre, Helsinki University of Technology, recommends 'metaphor' as a powerful tool in brand/product identity analysis and contends that it can help distil brand/product Identity (Karjalainen, 2001). In the context of teaching, he has asked students to first create an identity framework and illustrate its value through a number of verbal and visual arguments. Next, based on the identity framework, they were asked to choose a visual metaphor to support the verbal argument that can best illustrate the core values, attributes, or characteristics of the selected product/brand. At the same time, the students had to design a magazine advertisement to support the identity. At last, they were asked to create a new airline brand based on the core identity of what they had done before.

Karjalainen proposed a useful and general method to help analyse product identity or brand identity and build the product image or brand image quickly (Karjalainen, 2001). Karjalainen has also pointed out that if a design system is based on metaphor, it is very important that the metaphor's universality should be considered carefully. It is because the output is presented as a "visual image" of a particular brand or product, and the perception on this image depends entirely on the mind of the audience. Moreover, a designer's experience may also be a problem as some decisions are subjective and may be highly dependent on a designer's experience and attitude. Therefore, the perceived image can be radically different from the identity a company really wishes to communicate to the public. Last but not least, the author proposed to explore the trace of brand identity by using a "product language" for individual products. This will be an insightful and interesting approach when conducting research in product or brand identity. However, the concept of the product or brand identity remains at the visual level.

3.4.2.2 LG's PI understanding from a viewpoint of design management (LG, 2003).

In contrast, numerous works on product identity have been undertaken in actual practice. LG can be regarded as a representative.

LG Electronics Inc of South Korea is a prominent corporation in electronics & telecommunications. LG focuses on Digital TV, CD-RW, DVD, CD-ROM, DVD-ROM Drives, PCs, Monitors, Mobile Handsets, CRTs and PDPs.

LG is one of the earliest product-based corporations that took design as a core business strategy in Asia and it has several internal design teams located in different countries.

For the top management at LG, they believe the corporation can communicate with its customers via its product. Their philosophy is that product image in the customers' minds can reflect their perception of the corporation. As a result, the corporation can pass messages about the corporation -- such as its goal, culture, vision and spirits -- to its customers by acquiring an appropriate product image. This philosophy is considered to be the start of product identity.

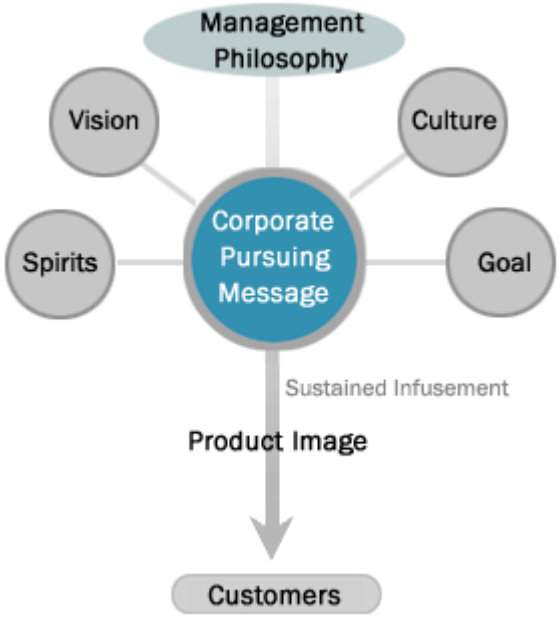

Figure 3-4: Management Philosophy of LG (Adapted from LG website).

Designers of LG defined and developed their own product identity concept and working model, which is called Corporate Identity through Process Design (CIPD). It was believed that through consistent design activities in the CIPD, LG can propagate a sustaining, trustworthy image for the customers.

Figure 3-5: Corporate Image and Product Identity (Adapted from LG website).

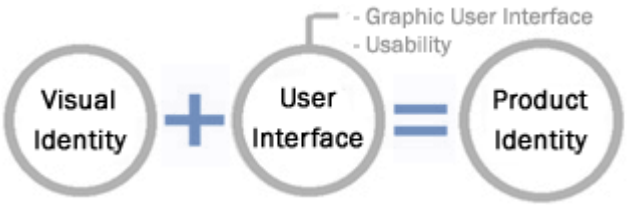

Figure 3-6: LG's Concept of Product Identity (Adapted from LG website).

Figure 3-5 shows how corporate image was set up through product identity. The product is an essential factor in making the connection between customers and the corporate. LG tries to heighten their product quality in "whole" aspects rather than simply unifying the styles of its products. Thus, the identity is acquired at the level of "total product quality" instead of simple similarities in components' styles. In figure 3-5, we see that PI is subjected to change apparently by the CIPD to meet the customer's demands at all times. Product identity has been undertaken as a basic design strategy of the corporation and figure 3-6 illustrates LG's concept of PI. A definition of PI was given in LG website as follow:

"PI (product identity) means to embody and to sustain the brand image through product design."

3.4.2.3 View PI from a business perspective: Productization of Maxrumpus Ltd (MaxRumpus, 2003).

Maxrumpus is a software consulting company in Finland. Its service is to help clients to deliver complete quality software to customers. One of its services is called "Productization". This service helps clients to unify all aspects of their product, making its message consistent and clear for both the provider and the customer. There are two main areas in Productization: product identity and implementation.

The whole Productization process is based on a product message. This message is the simply told story of the product, in words and pictures, targeted to meet the need of potential customers. PI is about finding and communicating the product's visual and verbal message and defining the scope for implementation.

Practically, product identity is divided into verbal and visual. The verbal framework encompasses all written text about the product. The visual framework encompasses design and graphical presentation in relevant media. Corporate identity and product identity may be separated or integrated depending on the chosen strategy. The decision depends on the message that the corporation wants to deliver to its customers and other relevant stakeholders. Once PI is properly established, it acts as a set of guidelines for implementation in the product itself.

Implementation involves actions to apply these rules to the actual product and its related materials. It includes related marketing, sales/promotion materials involved, packaging and the product itself. Design defines the unique visual look and feel of the product that is then implemented throughout the rest of the Productization. Design is the visual soul and spirit for the product. All these materials are made and designed in such a way as maintain consistency in message and identity.

3.4.3 Various viewpoints of Product Identity.

Before to provide a rough understanding of what is product identity, it might be helpful to discuss some "similar" terms related to PI. As it often associated with corporate identity and brand identity, the term product identity is not always consistently used by writers of practitioners in the field, and the notions of PI are sometimes described by other terms. Some of these terms are introduced here, and many have the value of emphasising one or another aspect of product identity.

a) Product Characteristics/ Product Attributes

Kelvin J. Lancaster maybe is one of the earliest academics who talks about PI while he does this it by using the term 'product characteristics.' He contends that the decision to purchase a product actually is partly a consequence of a product characteristics collection. Product characteristics are the main aspects of a

product that differentiate it from others. These characteristics are not individuals; they are related to each other (K. J. Lancaster, 1966).

b) Product Data

More technically, a set of product data elements can also represent a product identity (Sääksvuori, Antti. 2004. pp. 48).

c) Brand DNA

The significant difference that can be made to a product/range by the application of a product identity is captured in the metaphor of a brand's DNA. This phrase is not only used by designers but has currency for marketers and advertising agencies as well. Understanding branding 'touch-points' from a consumer point of view is also suggested as the key to unraveling what is a very complex issue in the understanding of a brand and its values. Product DNA is taken to convey physical, rational and emotive values. (Steve Hughes, Fitch, London Nov, 2003) [51].

d) Product Image and Product Style (usually visual perception)

Mike Baxter speaks of Product Image --- an identity from a consumer's perspective --- describing this as overall, global perception. The perception can be individual and personal, but it suggests a general standard that allows for wider recognition. (Mike Baxter, 1995. pp. 35).

e) Product Identity and Product Identity approach

[51] Interview with Fitch, London, via emails was in Nov, 2003, with Mr. Steve Hughes, the Director of Fitch London. (Please refer to Appendix 1 in appendices for the list of interviews.)

Product identity is a part brand identity and corporate identity. PI supports brand identity to establish the intended target image. Different brand development goals will result in different PI approaches. The most crucial element of a PI approach is to define the unique characteristics of the product based on the Brand Identity and Corporate Identity, and define the quantifiable and variable elements. Product Semantics is a popular method of for many product identity approaches. Also, PI approaches is better to be considered as long-term processes which entail modifications and evolutions. (Kevin Mccullagh, 2004) [52].

f) Product Identity and Product Personality.

Product identity is often pursued so as to make a clear statement about the individuality and personality of a product, expressing uniqueness, timeliness of style, and appropriateness in the environment. Product identity helps to meet consumer's fantasy and create value opportunities. Product identity consists of three attributes: 1) Personality: differentiating itself from its competitors but connecting it to the other products produced by the company. 2) Point of time: to capture a point in time and express it in a clear, powerful way. 3) Sense of place: Products are be designed to fit into the context of use. (Cagan and Vogel. 2002, pp. 64-67).

g) Brand Personality

Please refer to section 3.3.2 for the discussion of brand personality.

[52] Interview with Seymour Powell Design, London was in Aug, 2004, with Kevin Mcullagh, Director. (Please refer to Appendix 1 in appendices for the list of interviews.)

3.5 A Rough Understanding of Product Identity.

After a brief review both in academic and professional areas, I propose a rough understanding of product identity --- as a short summary of what I've studied so far, also as a base for the further working.

3.5.1 What is Product Identity?

From the above review of three major theories which have the cues link to PI, I share my very roughly understanding of what is product identity.

a) PI in the context of Corporate Communication

Product identity is telling stakeholders what the corporate product is. When a company communicates to the stakeholders via product, PI is like the ID card showing what's particular of the product that a company offers. Product identity in this context means a certain way to distinguish from others. Messages from corporate identity/brand identity are well convey to products via PI.

b) PI in the context of Design Management

As from a view point of Design Management, product identity is a strategic tool that a company use for standardizing products by defining a certain product policies. These policies are defined on a solid understanding of what is the brand want to be, what kind of message it want to tell stakeholders. In product development process, product identity is the key issue to better control design outcomes.

c) PI in the context of Brand Management

In terms of Brand Management, product is a part of brand; it is a brand touch-point that interacts with all the stakeholders in all the terms of brand experience acquisition and brand reputation building. Product identity strictly prescribes by what attributes products should have to convey right and positive brand image. Product identity also provides rules for products through which a brand can keep its consistency.

3.5.2 The relationship between CP, CC, CI, BI, VI and PI.

To clarify the relationship between Product Identity and other terms in the Corporate Communication theory is crucial in term of understand product identity. Here, I propose a Corporate Identity System model, and based on this model, I try to establish an understanding of the relationship between the constituent parts and terms.

3.5.2.1 Corporate Identity System model (CIS model).

Traditionally, a product is considered as an important design element in visual identity. VI handbooks are used as a standard in design. However, a product is a complex object and it can tell more things than a logo, a name or a business card. The components of a product are much more complex (now increasingly together with product service) than those that can be described by visual identity. Indeed, a product is often now divided into two major elements: product and product service. It may consider that the design principle of VI is not

sufficient for a product-based company as product design is the core element in their corporate identity. It is important to notice that product identity and visual identity necessarily encompass a small part of each other, in respect to such mattes as logo, ad, brochure, packaging, etc. And this small part can be defined as a component of communication identity. Therefore, I would propose Service Identity (SI) alongside VI into PI as components for a CIS model.

Many Asian companies adopt the Japanese-style Corporate Identity System (CIS), which has a high emphasis on the corporate spirit. By reference to the Mitsubishi Mix CIS model (presented in Section **3.1.3**, see figure 3-3), I try to derive a new CIS model with product identity supported. Figure 3-7 shows the structure of such a new system. Basically, the Mitsubishi Mix is concerned with the communication between internal stakeholders via Strategy Identity, Behaviour Identity and Mind Identity. In my model, I try to communicate with external stakeholders via brand, which contains Product Identity, Service Identity and Communication Identity.

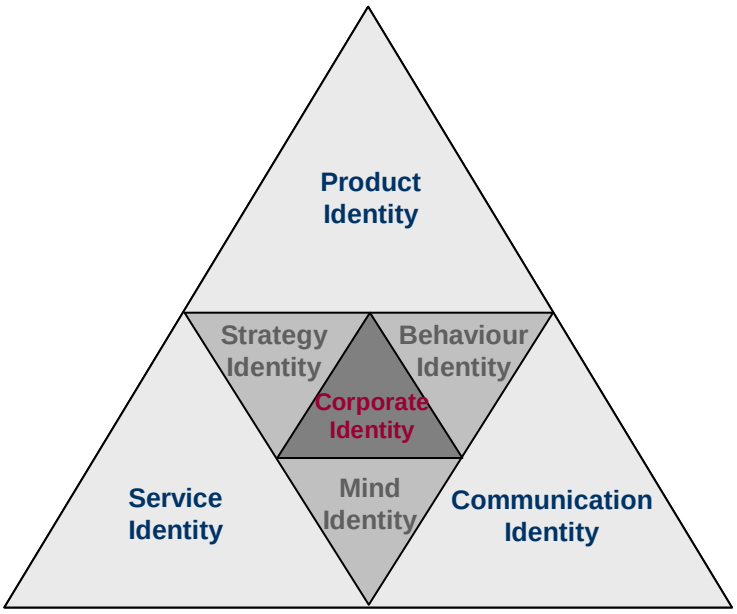

Figure 3-7: New CIS model with Product Identity Supported.

3.5.2.2 Corporate Reputation Acquisition with new CIS Model.

Figure 3-8 depicts how corporate reputation is acquired through the new CIS model. As mentioned by Olins in the literature review, top management's personality is reflected as the distinct culture of the corporation. Their philosophy in doing business is the base of corporate culture. On the other hand, Balmer has pointed out that visual identity is a way to signal the change in corporate culture (Balmer, 2001); corporate culture also is one of the messages that the top management of LG want to present to its customers via their products. As a result, it is clear that PI is an important component which will reflect the corporate identity and brand identity as well. In the diagram, the corporation carries out its mission through the new CIS to the customers and corporate image is established in the customers' minds. The new CIS is driven by corporate culture with corporate philosophy behind it. This is a continuous process and a corporate reputation is established over a period of time.

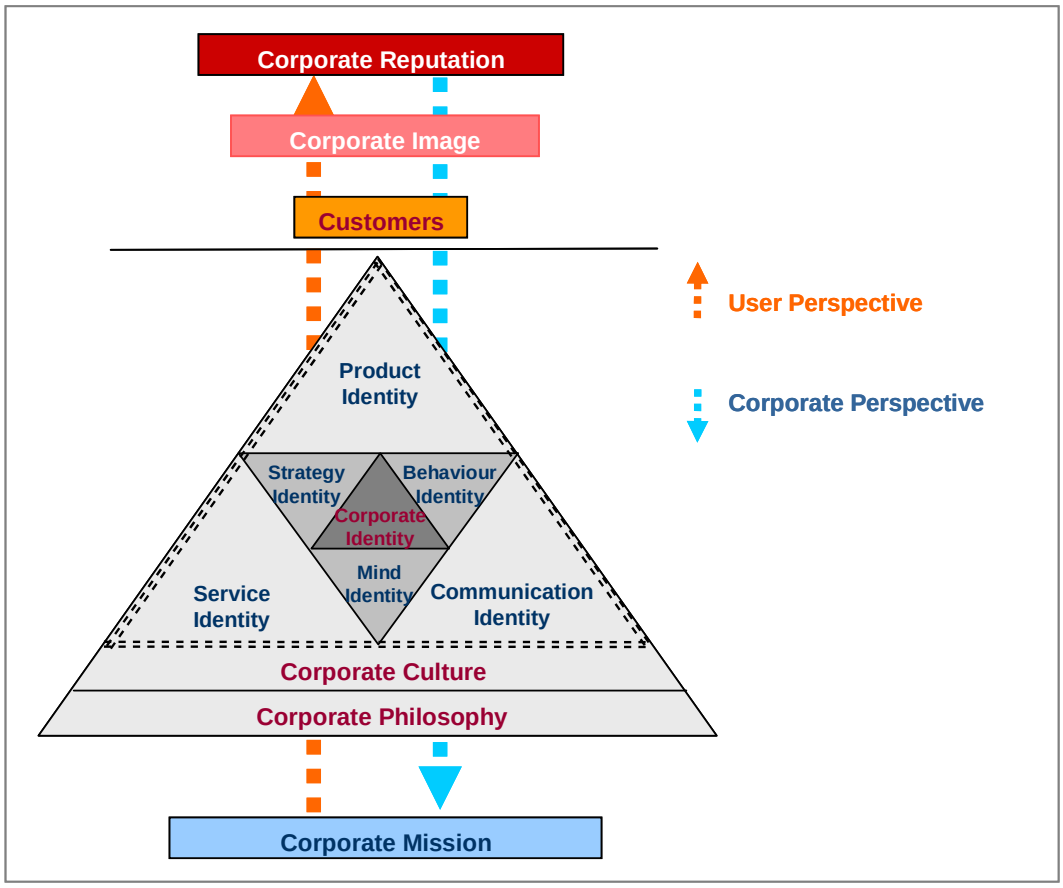

Figure 3-8: Corporate Reputation Acquisition with the New CIS.

Chapter 4

The Practice of Product Identity in China

In this chapter I back to China begin to study the practice of product identity in Chinese manufacturers.

Before case studies, some view points from Chinese practitioners of what is product identity will be presented. This part is mainly sourcing from interviews. I then take mobile phone design as the research prototype. I first take a general look of Chinese mobile phone industry. With detailed case studies, I dedicate product identity development stages to illustrate the depth of PI application within Chinese mobile phone manufacturers. Studies also go further to explore more about PI stages in terms of product development. And a Chinese PI development model is proposed.

Next step seen to study what's strategy is significant efficient to shift PI to a higher stage. Star product strategy is introduced here.

And finally, a study focuses on how product identity is built, maintained and evolved. An integrated PI development approach is dedicated.

This chapter is mainly based on interviews and case studies.

4.1 Product Identity Development Stages.

As Chinese manufacturers are now increasing their investment in design, it is at this stage that product development strategies are enacted. So far, and despite the problems discussed above (in chapter 2), there is no doubt that PI is being stressed as a significant and powerful strategy. In interviews with some Chinese manufacturers, it is very encouraging to know that all of them are now searching for a systemic approach of it. Where manufacturers previously operated without formal design strategies and in an environment in which design is itself an immature practice, it even can be said that product identity is the one of the first integrated and systemic design strategies that has been used to manage product design in China.

This section presents an overview of Product Identity Stages in China. A new framework for categorising Product Identity strategies is introduced. With strong user-end and short product lifecycle characteristics, Chinese mobile phone market has shown rapid and abundant product generation; this makes it a highly suitable subject for the study of product identity as a strategy for competition. And while these case studies focus on this product, I anticipate this analysis may apply to other markets. These case studies are also very illuminating with regard to the general situation of consumer product design in China.

4.1.1 View points of PI from Chinese practitioners.

During this research, a number of interviews had done to provide abundant information and evidence. In order to study PI's practice in China, interviews including of Chinese manufacturers, Chinese design firms, Chinese design schools and some follow up case studies last over three years. Some findings are really interesting and exciting such as PI development stages, star products. While before presenting those findings, I would like to share some point of views from Chinese practitioners, to see what their understanding of product identity is.

- Practitioners from Chinese manufacturers

Mr. Han Jiufeng, vice director of ID department, TCL Mobile, views product identity is a design standard that create a family feeling within a wide ranges of products, as to mobile phone design, this characteristic is especially outstanding. Succeed in creating the best seller TCL mobile phone 3188 (and probably it is also the best seller in all Chinese mobile phone models by year 2004), he argued that to define a successful PI does not necessary based on corporate identity or brand identity, sometimes it comes out by chance (just like TCL 3188). After a year, in 2005's interview, he believes that this chance is very rare, and began to enhance the awareness of TCL's corporate culture and corporate identity in his design team. Some specialized corporate cultural training was designed and implement to all TCL's designer. Mr. Han Jiufeng's supervisor, Mr. Zhang Yong, manager of Tactics Department, TCL Mobile, he has no idea what product identity it is, however, he is very much open-minded and is willing to give any support to do PI research or collaborate PI projects.

Mr. Niu Beng, director of design department in ZTE, his view towards product identity is more management orientated. It very much to do with his

major task in ZTE – he is in charging of control the mobile phone design from external design teams and collaborate with Korean design team to finalize design task. To his understanding, PI is a set of design policies to exam design outcomes. As ZTE's design task more and more relay on its internal design team, he began to lead a team to study how to establish PI from different approaches. Recently, study focuses on how to develop PI from a user environment perspective.

Graduated from UK design school, Mr.Yang Zhiyan, product manager for 3G mobile design, he believes that PI helps to avoid chaos of mass production by create product design standards. Very similar compare to Mr. Kevin Mcullagh, director of Seymour Powell, London, Mr.Yang prefers the approach using product personality defining. And he also supports corporate identity and brand identity is the foundation of product identity and nod that product identity supports to create a family appearance.

Senior designer Ms. Wu Yingda and Ms. Xin Huiying, Industry Design Dept. Konka, they claim that product identity can be vary in terms of conditions changes. For instance, ten year ago, if people talking about modern design for TV set, big embedded speaker could be the trend; yet now, invisible speaker is viewed a modern trend. They concluded that corporate identity and brand identity should always keep the consistency while product design policy could be various.

Mr. William Yau, design manager of Nokia Design Asia-Pacific, he denoted that in Nokia, PI is presented as a PI guideline book for designers better strict with design outcomes. The contents of PI guideline including of all most all the design elements (colour, keyboard, forms, lines, etc), and it has to be reviewed for changes for a certain of period.

- Practitioners from Chinese design firms

Understandings from Chinese design firms seem more practical orientated.

In S-Point, a design firm has an international cultural background for over 10 years, Mr. Zhou Yi, the president, he regards PI is a design strategic tool from which a product is essentially connected to a brand, to deliver the message a company would like to decline to its stakeholders. In terms of product design, PI largely helps to reduce time and cost, to avoid design failures.

In addition, Mr. Jack Lin, Project Manager of Nova, a Taiwan designer, highly evaluated product identity as a very useful design tool – under the condition that Chinese local designers lack of advanced design experience.

Though some viewpoints are limited, the propose of presenting all these viewpoints is to show the depth of PI understandings among Chinese practitioners. And I hope it can help to explain some findings in particular.

4.1.2 Background of the Chinese mobile phone industry.

Chinese mobile phone industry developed very recently, beginning with OEM work for international brands in 1996. Initial production involved very close cooperation with South Korea and Taiwan mobile companies by Chinese firms such as Kejian, Xiaxin, and Bird. The development of domestic brands began at the end of 1998 with Kejian introducing its own line of handsets. It is wildly accepted that the Chinese mobile phone industry has seen dramatic changes since 1999.

At the moment Chinese manufacturers first stepped into the mobile phone industry, foreign brands held a commanding position in the domestic market. At the same time, the market was growing prodigiously. China's mobile phone market grew by an unprecedented 42 million mobile connections in 2000, taking cellular penetration to about 6.7 percent of the population. And it is said that by the end of July in 2001, China overtook the United States as the country with the largest mobile phone subscriber base with over 120,605,000 mobile phone customers[53]. In 2000, major international mobile phone vendors such like Motorola, Nokia, Siemens and Ericsson shared over 78% of the Chinese market[54]. While in 2003, China national brands first surpassed foreign brands and achieved an overall 54.7% domestic market share[55].

Low prices, prepaid services and huge growing demand have driven Chinese cellular connections. However, now the supporting industry is 'overbuilt,' and restructuring can be foreseen. In late 2003, the days of heady capital expenditure growth in China's telecommunications market stopped suddenly. The pace of development in the industry had required huge investment growth to roll out basic access, which naturally had to peak at some point before retrenching to more normal levels. This is especially true of the mobile phone industry, which had an investment-intensive phase from 1996 through 2001. Given the previous investment binge, 2002 began to see an emphasis on

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[53] Date Source: Gartner Dataquest (August 2001). *China Nudges U.S. Out of Lead in Mobile Subscriber Market.* Publication date: 17 August 2001, ID number: TELC-WW-DA-0030. www.gartner.com

[54] Date Source: Gartner Dataquest (September 2001). *The China Wireless Dragon: Igniting Competition Or Just Breathing Hot Air?* Publication date: 8 October 2001, ID number: TELC-WW-DP-0089. www.gartner.com

[55] Date Source: China Ministry of Information Industry. www.mii.gov.cn

optimizing networks over building more infrastructures. This sudden halt impacted China's mobile phone market first by creating intense competition between international and domestic manufacturers[56]. Many small Chinese mobile phone manufacturers are being forced out of the market.

In early 2004 there were thirty-seven mobile phone manufacturers producing for the domestic market. Nation-wide there were more than 270 million mobile connections at the end of January 2004 and annual demand exceeded 60 million mobile phones[57]. The focus of competitive activity has shifted from the distribution of mobile phone to more refined product and pricing strategies. Based on the date from China Ministry of Information Industry, by the end of June in 2005, there were around 363 million mobile users in China which represents 28% of the total Chinese population; however, the market share of domestic brands dropped to 37%[58].

Figure 4-1 shows the market share of domestic manufacturers from year 1999 to year 2005.

	1999	2000	2001	2002	2003	2004	2005
Market share of domestic brands	3%	9%	22%	39%	54.7%	49.1%	49%

[56] Date Source: Gartner Dataquest (August 2003). *China's Capital Expenditure Boom Is Over.* Publication date: 8 August 2003, ID number: TELC-WW-DP-0578. www.gartner.com

[57] Date Source: Gartner Dataquest (April 2004). *China's Mobile Handset Market Grows More Competitive.* Publication date: 12 April 2004, ID number: TELC-WW-DP-0677. www.gartner.com

[58] Date Source: China Ministry of Information Industry. www.mii.gov.cn

Figure 4-1: Chinese mobile phone market share with domestic brands from 1999 to 2005[59].

Among these 37 mobile phone manufacturers, Bird, TCL, Lenovo, Konka, Xiaxin, Kejian, Dbtel, etc, are the leaders among the Chinese domestic vendors. In a survey report of Chinese mobile market share in the first six months of 2005 by CCID, it was found that Bird had 8.89%, Konka had 5.08%, TCL had dropped to 4.64% while had Lenovo increased up to 4.57%[60]. These major Chinese mobile vendors grew fast on account of national distribution channels and low price strategy, but they are now facing a serious problem as international manufacturers begin to retool the distribution system to eliminate middle layers and extend their retail network down to lower tiers.

The major market strategy of Chinese mobile manufacturers is focused on distribution channels. There are three major types: national and regional distributors, vendor-owned channel, and vendor direct supply[61]. National and regional distributors – distributors have branches and offices throughout the country and their strength lies in their geographic reach and penetration in tier 3 and tier 4 cities[62] and remote townships where most vendors lack coverage. Vendor-owned channel – domestic vendors commonly set up their own branches and offices to support retail outlets. This strategy is more costly than using

[59] Date Source: CCIDdate. www.cciddate.com. Date collected and analyzed by author.

[60] Date Source: CCIDdate. www.cciddate.com

[61] Date Source: Gartner Dataquest (March 2005). *China's Emerging Mobile Market Presents Rewards and Risks to Vendors and Operators.* Publication date: 3 March 2005, ID number: G00126488. www.gartner.com

[62] The Chinese market is discussed in terms of four tiers, with the upper two tiers designating wealthier urban markets and large coastal cities, the lower two tiers provincial cities and rural markets with lower incomes.

national or regional distributors because vendors need to maintain a larger sales force, but it can increase sales efforts at the retail end. Bird, Haier and TCL are very successful examples. And for the vendor direct supply, this distribution model is often used with electronic chain stores that sell home appliances. Big stores started carrying mobile phones in 2003. By this channel, vendors can directly approach consumers in tier 1 and tier 2 cities; but not in lower-tier cities because the limited scale of those cities will not sustain the volume business of megastores.

These three major distribution channels, especially the vendor-owned channel, are the key for China domestic vendors fighting for their market share. And together with a low-price strategy, Chinese domestic vendors reached 54.7% domestic market share in 2003[63]. However, when international vendors began to appreciate these retail strategies and to build their own distribution network or close cooperated with the other two channels to develop products better tailored to local tastes, the competition became more and more difficult. Domestic vendors began to losing their competitive advantage in late 2003. Nokia led the way by retooling its distribution system to eliminate middle layers between the vendor and end-user and by adopting the direct-to-retailer model. The strategy was successfully implemented and Nokia recovered its lost ground[64]. Nokia has

[63] Date Source: China Ministry of Information Industry. www.mii.gov.cn

[64] Date Source: Gartner Dataquest (March 2005). *China's Emerging Mobile Market Presents Rewards and Risks to Vendors and Operators.* Publication date: 3 March 2005, ID number: G00126488. www.gartner.com

stopped losing market share since 2004, and it reached 22% in 2005 (22% in 2001, 18% in 2002, 15% in 2003 and 19.7% in 2004)[65].

As Chinese local vendors are losing strength in retail strategy, the battle is shifting its focus towards improving mobile phone product features and designs. At the same time – since 2004 – Chinese local mobile manufacturers have begun to market their products on the global market. Products with innovative design and higher perceived values are seen to have better traction in the market[66].

In such a circumstance, the appreciation of product design is increasing occurring among mobile manufacturers in tandem with market strategies and concern for branding, which also stresses Product Identity.

4.1.3 Four major Product Identity Development Stages in Chinese Mobile Phone Industry (Chen Jie and Eric Wear, 2004b).

In the case studies and interviews[67], several tiers of PI strategy among Chinese mobile phone manufacturers can be clearly distinguished. In this section I describe these tiers, which can are also found to represent 'stages' in the understanding of PI and its elaboration by the firms concerned. Please refer to Appendix 3 at the appendices for the list of information and comparison.

[65] Date Source: Gartner Dataquest (from 2001 till now), date collected by author. www.gartner.com

[66] Date Source: Gartner Dataquest (April 2004). *China's Mobile Handset Market Grows More Competitive.* Publication date: 12 April 2004, ID number: TELC-WW-DP-0677. www.gartner.com

[67] Please refer to Appendix 1 in appendices for the list of interviews.

In Appendix 3, the lists of major principles are: is there any clear design objective? Who is the design support? How much did managers and designers involve in product development process? How made decisions? How much corporate identity/brand identity is concerned? Did it concern the consistency of identity? Etc. I discern four major ladder-like stages: Low committed PI, Emergent PI, Representative PI, and finally, Innovative PI. A manufacturer usually takes positions in more than one stage and it is not necessarily the case that it goes through all these stages, though it is apparent that several have done so.

4.1.3.1 Stage One: Low committed PI (Pre-PI).

These are products where the appearance is largely a consequence of engineering and manufacturing, with additional choices made by managers. There is no coherent view about the appearance that emerges and little relation between different products or product lines. In such cases, design is not recognized or discussed as such. This is a stage prior to the awareness of PI. Mainly, it has two major variations, Copy-PI and Buying-PI.

a) Copy-PI

The manufacturer is not confident to develop their own PI, relying instead on copying the PI of successful competitors. Setting aside the ethical (and legal) objections to this strategy, it nevertheless represents an awareness of PI and its use as a manufacturing strategy. Small Chinese handset manufacturers prefer this strategy as it seems to minimize market risks and avoids R&D costs.

b) Buying-PI

Similar to OEM, this involves buying designs ready-made from others. This happens when a large and otherwise well-known company wants to enter the mobile phone market, leveraging its low production costs and existing reputation in a low-risk bid to seize market share.

An instance would be Huawei, in the first period when it developed its own mobile phone brand. Huawei is the largest Chinese telecom company, with a focus on communication equipments and networks. Since the end of 2003, Huawei began to step into the mobile phone market using a binding-sale model tied to its supply of professional equipment. In part because Huawei's managers wanted to test the response of the market before making a greater commitment, designs were bought and Huawei's own label was added. After feedback from the market was positive, Huawei set up its own handset design team. After Huawei established its own 3G design department in the early 2005, this buying-PI strategy was no longer used.

4.1.3.2 Stage two: Emergent PI.

Design is appreciated in this stage. Manufacturers usually have their own internal design teams and speak of them with much hope. However, in the actual product development process, they pay more attention to market risk and this sharply limits the evolution of Product Identity. Therefore, innovations in design are usually compromised. All significant design decisions rest with corporate managers who are afraid to face the failure of testing their own designs. Many Chinese mobile vendors grew by adopting this strategy. As some of them have now become stronger, they have shifted their major PI strategy into higher levels. And yet they may continue with emergent PI strategies in order to gain market

share with lower risk. This is the main problem that is criticized by international competitors.

Shadow-PI and Basket-PI are the major forms of emergent PI.

a) Shadow-PI

Compared with copy-PI, shadow-PI is more concerned with the legal responsibility of copycats. Instead of completely copying the design of a competitor, the manufacturer closely follows it. Identity is clear derivative but is nonetheless distinguishably (and legally) different. It can be seen as a shadow of the original one. ZTE provided an instance of this, its products echoing those of Samsung, model for model[68].

b) Basket-PI

Rather than selecting a single competitor to copy or shadow, some manufactures select from a variety of 'market leaders'. This 'basket' strategy seems to have the advantage of deriving PI from many successes, but risks incoherence in execution. Bird is an example of this, basing its designs on a selection of models designed by international firms.

This is probably the most common strategy used among Chinese mobile phone manufacturers. It has helped them became stronger in a very short time; however, it now seems to be a barrier in the way when they want to go further.

[68] Please refer to section **4.1.4.1** for detailed case study of ZTE.

4.1.3.3 Stage three: Representative PI.

At this stage, designers and design works are highly respected and appreciated. The design department is often able to exercise leadership and receive solid support from R&D and other departments. Products increasingly have unique characteristics and can be seen as a representing the overall brand of a firm, at least for a certain period of time (due to the short product lifecycle of mobile phones). Differentiating-PI and Independent-PI are the two stages.

a) Differentiating-PI

Distinctive PI may emerge firstly from a simple desire to distinguish a company's products from those of competitors. This may be represented by some 'design gimmick' within an identity that otherwise does not greatly differ from market averages. An example would be TCL's famous jewel-embedded mobile series. It use of jewels on the faces of its mobile phone created such a success in the market that TCL took this feature and related style elements forward as common features in brand-wide PI[69].

b) Independent-PI

Consciously designed in order to establish an identity that owes little to other brands, this stage of PI requires experienced designers and a deep appreciation of market segments. Independent-PI is seen to carry with it considerable risks and costs, though these can be minimised if the firm has both strong technical, marketing and design support.

[69] Please refer to section **4.1.4.2** for detailed case study of TCL Mobile.

An example is Xiaxin, which first undertook OEM for Bellwave (No.2 largest market share in South Korea), and is now using Bellwave's technology and design team to develop its own brand, Amoi. Another is Kejian which had the third largest market share in China in 2003. Kejian has both a China-based design department and a design team located in South Korea, but almost all recent models were designed by the Korean team. Kejian is using this strategy to position its brand in the high-end market in respect to design and quality but retaining a lower price compared with international brands.

4.1.3.4 Final Stage: Innovative PI.

In this final stage, PI is well understood and based on sophisticated design experience and management. PI can be used to articulate a new presence in the marketplace and can be linked to product design innovations. Products of this stage may require a huge investment and high risk. These products represent the total quality and strength of the company and most of them also represent the progress of the supporting technology. Successful products with innovative PI can be seen as pioneers of a new life style, pointing to basic change. To run this innovative-PI, most companies have solid research teams for the conceptual product design and take leadership in the industry.

Some international firms are operating at this stage in China, such as Nokia and Samsung. At present no local manufacturers are operating at this stage.

4.1.4 Detailed Case studies – TZE and TCL.

The link between PI strategies, design support and product design process is best observed in the experience of individual companies. The larger part of this research has been concerned with detailed study of these, using interviews and narrative reconstructions of product development process. Two instances are briefly introduced here: TZE with its shadow-PI and TCL's differentiating-PI.

4.1.4.1 Case study of ZTE.

When it first entered the market, ZTE's Product Identity simply involved copying that of competitors. However, it soon moved to the more sophisticated stage of shadowing, taking Samsung as a model (Samsung is now very active in Chinese market; it held a 10.46% market share and became the top 3 in China in the first six months of 2005[70]). "We take Samsung's mobile phone as ZTE's design prototype because our CEO believes that the one can only distinguish a good design from a bad design by looking at sales volumes. Samsung is quite successful in the Chinese market recently, especially in tier 2 and tier 3 cities where ZTE is also introducing its mobile phones. And, in additional, our CEO personally likes Samsung's designs," said Mr. Niu Beng, the director of Design Department, ZTE R&D Centre, Shanghai[71].

ZTE has two design teams, located in Seoul and Shanghai. The overseas design team has twenty designers while the local one has twelve, both two teams

[70] Date Source: CCIDdate. www.cciddate.com

[71] First interview with ZTE was in March 2004, with Mr. Niu Beng, the director of design department in ZTE, and some senior designers. (Please refer to Appendix 1 in appendices for the list of interviews.)

having been founded in 1998. The two teams work closely but are assigned different tasks at different stages in the product development process. The Korean team takes the lead in overall design tasks while the Shanghai team undertakes small changes/modifications when the product is put into production, or 'accessory' jobs such as wallpaper and enhancements.

Using shadow-PI strategy, the design process is simple and lasts only two to six months. First, the designers disassemble a Samsung model selected by the marketing department and which has been confirmed by the CEO. They test whether ZTE's motherboards can be put inside the Samsung shell. If not, the designers will work on the interior design to insure that with minimal modifications ZTE's motherboard can be used. "In this stage, designers work more like structural engineers," commented Mr. Niu. It is then the turn of the technical support department to find accessories, such as display screens and plug-ins. "We will mainly use ZTE's own accessories, but if we can't find a similar accessory or if the cost is too high, we will use a lower-quality or lower-function one, such as replacing a 262K colour LCD display with a 64K one," said the director. When the main accessories are confirmed, finally, the shell design is undertaken. For the shell design, they usually modify a little bit but remain the whole style a 'Samsung look' from the original one. Finally, the CEO of ZTE is the only one who decides whether to put the design into production. The CEO's decision is the last stage and acts as the ultimate filter to control ZTE's PI. Then it is the local design team's job to fix all the small details and put it into production. After the launch in the market, no feedback related to design features is reported to the design team.

For instance, the ZTE A300 is largely copied from Samsung's T108 which was 2002's best-selling model. Small modifications were made such as the placement of antenna, moving the speaker from the right to the left, replacing the colour display into a black-white one. Consumers in tier 3 and tier 4 cities like the design of Samsung a lot while hesitate when facing its high price. The ZTE A300 had a great appeal as the price was much lower while the Samsung look was preserved. It became ZTE's best-selling model in 2002 (refer to figure4-2 for pictures of the ZTE A300 and Samsung T108).

Figure 4-2: Samsung T108 (left) and ZTE A300 (right).

(Pictures downloaded from the official websites of Samsung and ZTE.)

ZTE has about 50% of its design tasks done by external design consultants, including local and international firms. Interestingly, only 20% of the resulting designs are selected for production by the CEO – because the other 80% don't look like Samsung ones. ZTE's local design team also design some original models every year. However, unfortunately they can just put them into the window display in their Shanghai office. The director explained that it was not the

right moment to promote their original design as the brand was still immature in the market.

"Well, what is ZTE's identity? Our products mainly sell to the tier 2 and tier 3 cities, therefore, we must please our customers with their tastes. For instance, with model C988 (figure 4-3), we enlarged the border area with a darker colour to make the front display looks bigger, and we replaced the symbol element with a flash lamp. Low-end customers like it very much because it makes the phone look like it has two embedded digital cameras," commented Mr. Niu, "This is what you might call Chinese local compliant design."

Figure 4-3: ZTE CDMA mobile C988, released in early 2004.

(All rights received).

The philosophy and culture of ZTE, which is led by the CEO, focuses on margins and has thus driven ZTE into this shadow-PI strategy. It is believed that shadow-PI is the safest way for ZTE to develop its own brand quickly and efficiently. Then, with a strong brand image and a well-known corporate reputation, designers can be more creative. "What would happen if Nokia 7600

were to carry a ZTE label? Well, no one would buy such an innovative design from us yet," asked the director, "therefore, we'd like to be a follower first."

This shadow-PI was the major strategy for ZTE in the early development period of its mobile phone. From the second interview with Mr. Niu in July 2005[72], I was told that the situation has changed. ZTE is no longer relying on following Samsung, and the CEO is now adopting the original designs of his design team (mainly from the design team located in South Korea). The emerging ZTE product identity presents a strong South Korean style while the particular features reflect research that is still in process.

In the latest telephone interview in June, 2006[73], the director shared ZTE's PI building experience and some achievements so far. Different PI design policies were established to differentiate different product lines. These design policies contains the gender of user, the using environment, the specific functions, etc. "With the PI design policies established, we found it's now much easier to control the final products. We can save time and the most important is to keep the consistence of our mobile phone design. In another word, it helps to build a sustained brand image".

4.1.4.2 Case study of TCL Mobile.

TCL Mobile is the second-largest domestic mobile phone vendor (the first one is Bird) in terms of market share and has more established R&D capabilities

[72] Second interview with ZTE was in July 2005, with Mr. Niu Beng, the director of design department in ZTE. (Please refer to Appendix 1 in appendices for the list of interviews.)

[73] Second interview with ZTE was in June 2006, by telephone, with Mr. Niu Beng, the director of design department in ZTE. (Please refer to Appendix 1 in appendices for the list of interviews.)

than other local manufacturers. 'Actualize technology aesthetically' is the core philosophy of TCL Mobile. According to the founder of TCL, this slogan means letting customers experience the mobile phone as a thing of beauty to be treasured. In practice, and inspired by Chinese traditional philosophy and culture, this has led to a Product Identity that casts the mobile phone as a piece of jewellery, with precious stones sometimes used in the design. More broadly, it is designed with concern for emotional responses. Based on this jewellery-design-direction TCL Mobile has been unexpectedly successful in tier 2 and tier 3 markets in the last three years.

Design is taken as a central concern of TCL Mobile and is enunciated by senior management in their discussion of corporate culture. The design department is highly valued and takes an important role in critical decisions about design, leading to high morale among design personnel. As much as 90% of design decisions are taken by designers. TCL Mobile invests in training new designers and evaluating them in respect to corporate culture and corporate identity. Designers in TCL Mobile remark on how the corporate culture has influenced the 'spirit' of individual designers. (It is interesting to know that many senior designers speak of being proud to work in TCL and share in TCL's corporate identity.) Mr. Han Jiufeng, Vice Director of ID Department in TCL Mobile stressed that an important purpose of the training is to help designers restrict their design into TCL's style[74].

[74] Interview with TCL Mobile was in March 2004, with Mr. Han Jiufeng, Vice Director of ID Department, TCL Mobile. (Please refer to Appendix 1 in appendices for the list of interviews.)

TCL Mobile has several kinds of design processes. One may be described as a 'design task' and this lasts five to six months. The first stage involves a market segment target presented by the marketing department. The design department then researches existing competitors' models and features. A design is then formulated in coordination with a project leader (a non-designer, representing management), engineers and marketing personnel. During the development, retail distributors may be involved in evaluations. The resulting design typically combines TCL's PI with existing characteristics available in the market segment (in respect to functionality, impression of quality of fabrication, etc.)

The other kind of design development is 'concept design' which lasts sixteen to eighteen months. In concept design, design ideas come before hardware development or other considerations and this acts to encourage innovation. Supporting concept design is also a consequence of identity. Concept development is seeded by gestures such as providing the design department with a monthly budget to 'buy something beautiful.' Mostly everyday objects are sourced locally and placed in the design department to inspire new work. "TCL is the only local mobile phone manufacturer where concept design is practiced," said the director, "and where we can actually call ourselves designers."

With the jewellery-embedded line, TCL mobile built its own unique Product Identity and takes a differentiating position in the market. Actually, the original prototype TCL 3188 (see figure 4-4) on which this PI has been built was not the product of a well-considered process. The designer of this mobile model, Mr. Han Jiufeng, explained that when he designed this model he had just

graduated from university without any experience and the design was nothing to do with user-centered concerns or Chinese culture. When the model became very successful in the market, TCL Mobile began to appreciate it. Thereafter management sought to maintain and develop it.

Figure 4-4: TCL's most popular model, TCL 3188, launched in May 2002, with sales of 3.8m units up to March 2004.
(Adopted with the permission by TCL.)

This model has been used as a key prototype for corporate-wide Product Identity for TCL. Subsequent modifications to the model have preserved its essential features, while offering upgraded technology and qualitative improvements. Figure 4-5 shows the family-relation of some jewellery-embedded models.

Figure 4-5: The family-look of TCL's jewellery-embedded line.

(Adopted with the permission by TCL.)

TCL Mobile suspend this jewellery-embedded line in 2005 for the main reason that the mobile culture had changed; that buyers now regarded a handset as a consumer product rather than of a precious thing. But the corporate image and reputation built by this outstanding Product Identity has already helped TCL became the leader of domestic brands.

4.1.5 Further understanding of PI stages - in the context of Product Design Development strategies and Chinese PI development models.

A further understanding of PI stages is presented in this section. The four major PI stages can be understood to represent a progression or evolution, with close links to corresponding corporate plans, where product development strategies are the cornerstone of competition. Different product development strategies might be equally thought to represent corresponding PI stages. At the end of this section, a PI stage development model for Chinese manufacturers is proposed.

4.1.5.1 Pyramid of PI Stages.

The division of four major PI stages is based on the strength of the penetration of an identity connecting design, design management, product development, market strategy, etc. The tier-wise relation between these four stages is represented in Figure 4-6.

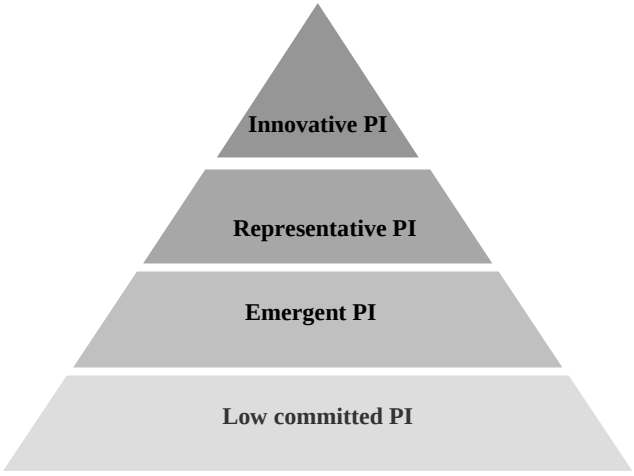


Figure 4-6: Pyramid of PI stages.

A low commitment to PI is on the bottom of the pyramid as the first stage. In this stage, product design and development strategy is largely ignored while, in contrast, production capacities are emphasised. The company is able to be responsive to a wide variety of requests from clients, and production is mainly driven by client orders and market demands. In consequence, products often present a chaos of identity, with few clear patterns.

The next tier, Emergent PI, is largely dependent on identities that have been already elaborated by competitors. Design plays a part in this stage but there is no intention to create nor to systematically management of Product Identity. Identity may nevertheless be built as part of the product development process, and for reasons related to market demand and the desire to lower risk. Competitions between companies which take this position in this stage are largely on the basis of price.

A higher level of competition comes with Representative PI. In this stage the intention to create and maintain a certain Product Identity (or several) is planned and managed. The development of products helps to build a sustained Product Identity and hence to deliver messages to stakeholders that support the brand identity and corporate identity. Leadership companies take a position at this stage.

Finally, one arrives at the stage of Innovative PI. Here a company invests in design and design research to create new products and new experiences that transform consumers' daily life. To achieve this they require strong design support and processes that can translate innovative ideas into commercially successful products. New Product Identity is created and those products that

succeed in the market become beacons in certain product categories, and these firms become competitive leaders.

A company usually takes positions in more than one stage and it is not necessarily the case that it goes through all these stages. For instance, TCL Mobile's jewelry-embedded series can be viewed as an instance of the representative PI stage, while its other product lines mainly followed the lead of other manufacturers. Therefore, the PI Stages in TCL Mobile consisted of both representative and emergent PI stages simultaneously. For Bird, its products have offered many choices to meet users' various needs. Most of its products are in the Emergent PI stage – shadowing other competitors – while Bird has one special product line that operates at a higher lever. Bird established the DoEasy brand in 2003, aiming to attract professional users – and this was done using a strong, high-end product identity. This sub-brand also indicates that Bird has the ability to design and produce a high-end mobile phone at a level comparable to that of international companies. And now Bird is slowly moving other product lines towards this level.

4.1.5.2 PI Stages and Corresponding Product Development Strategies.

Product development strategy is the way in which a corporation manages and develops its products so as to achieve its corporate mission. It is the starting point for the development of new products. Through product development strategy, a company defines which types of products it wants to develop, how it will differentiate itself from competitors (or even its own past), how it will

introduce new technology integrated with product and experience, and, what priorities it will establish for developing new products. Product Identity is a crucial component of Product Development Strategy, serving as a principle to manage the development of products and product lines, and guiding the performance standards expected at each product development stage. In large part, different product development strategies correspond to different PI stages.

Often, Product development strategies are differentiated by the position a company takes for its products. A classic structure for product development strategies was presented by Mike Baxter in 1988 (Mike Baxter, 1988, p106-110). He described four basic product development strategies distinguished by the strength of innovation: dependent strategies, traditional strategies, responsive strategies and pioneering strategies (Figure 4-7, below).

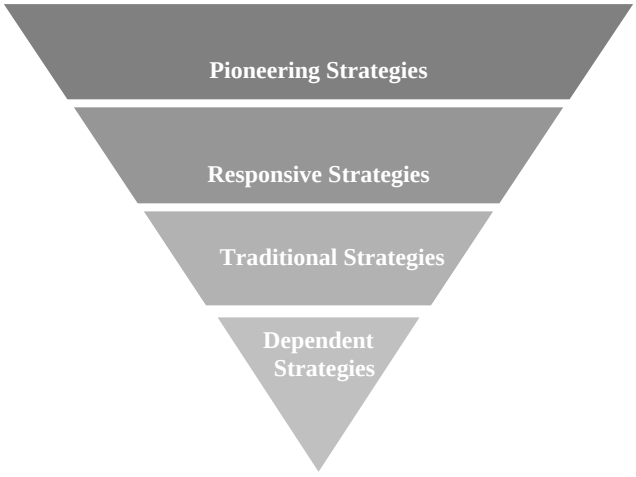


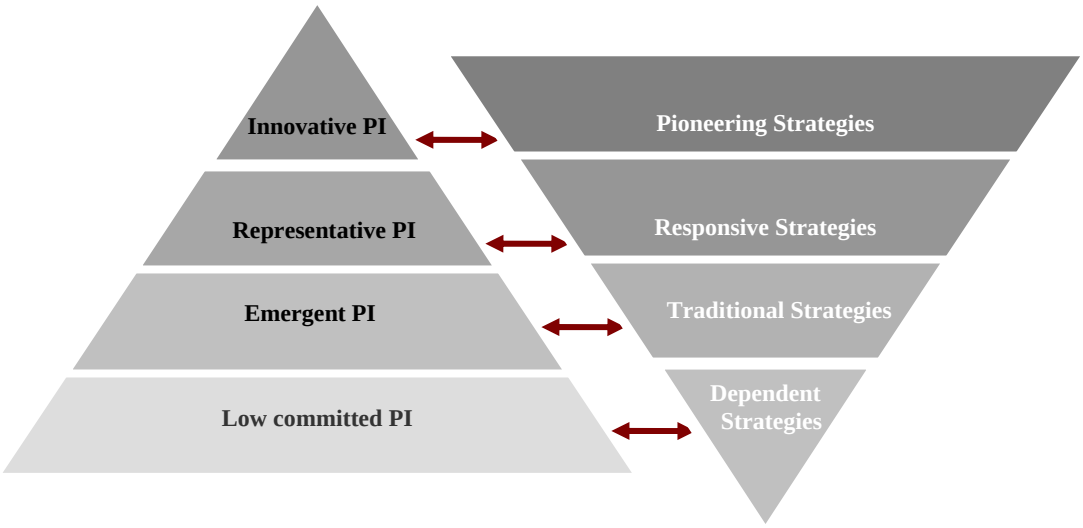
Figure 4-7: Product Development Strategies (Mike Baxter, 1988, p106-110).

Dependent strategies are market-driven and usually limited to process innovations and minor product improvements. These generally require high standards of production to be responsive to wide range clients; for example, an

OEM manufacturer often takes this product development strategy. Product Identities in dependent strategies often present a chaotic situation which can be said to be indicative of low-commitment PI. Companies who undertake traditional strategies usually address the development of products with an emphasis on reducing costs and seeking the safest position in the market. Product innovation is limited to following market leaders while trying to increase production capability; this often leads a traditional company to aspire towards shadowing PI.

By contrast, a company with strong design support will seek to sustain the advantage of its products and its leadership in the market and may take a responsive strategy. Often this involves a continuing investment in R&D capacity, but is still safer than a pioneering strategy as it involves a lower risk than that associated with bringing categorically new and innovative products to market. The identity of products is still developed with reference to successful primary pioneer products that already represent the leading types in the market.

Finally, leadership companies may undertake pioneering strategies to develop new products in ways that re-define markets and expectations. The introduction of such new products is itself the major resource for such leadership companies to succeed in competition. Adopting pioneering strategy, make sure that every single element concerned in product development will be well defined and managed. The identity of pioneer products is often unique and may be the next representative in a particular product category. Figure 4-8 shows the corresponding relationship between PI stages and Product Development Strategies.



Left: PI Stages. Right: Product Development Strategies. (Mike Baxter, 1988, p106-110)

Figure 4-8: PI stages and the corresponding Product Development Strategies.

4.1.5.3 Product identity life cycle and the evolution of PI in the market.

From the perspective of the product identity life cycle, these four major PI stages also represent an evolutionary process whereby an identity is first established, develops, matures, declines and is finally abandoned or replaced by a new innovation.

In the ideal model, identity first emerges in tandem with an innovative product. The product will first be challenged by the existing expectations of the market. If it succeeds, the company will then maintain and develop it. When a product with an innovative PI is accepted and widely adopted, many firms will shadow it, and its identity in the marketplace will slowly evolve towards the lower level as it is taken up as representative PI. Maturity and acceptance are here the main causes by which products move from the innovative PI stage downwards

into the representative PI stage. It also follows that the main constituents in the market are products in the representative PI stage and they are the major types that – on account of market share – catch the attention of other companies, who follow or imitate. Low commit PI is mainly based on copying and buying, so it could be taken from any of the 'higher' three PI stages, though mostly from emergent PI and representative PI. When an identity is in the low commitment stage, further development is ignored or stopped. Companies only focus on improvement of production so as to reduce costs and lower price. In such a situation, product identity is stagnant or in decline. This leads to termination or innovation, depending on the strength or culture of the firm. If innovation occurs, the abandonment of a prior PI leads to a new PI and a new round begin. The evolution of PI stages is described by figure 4-9.

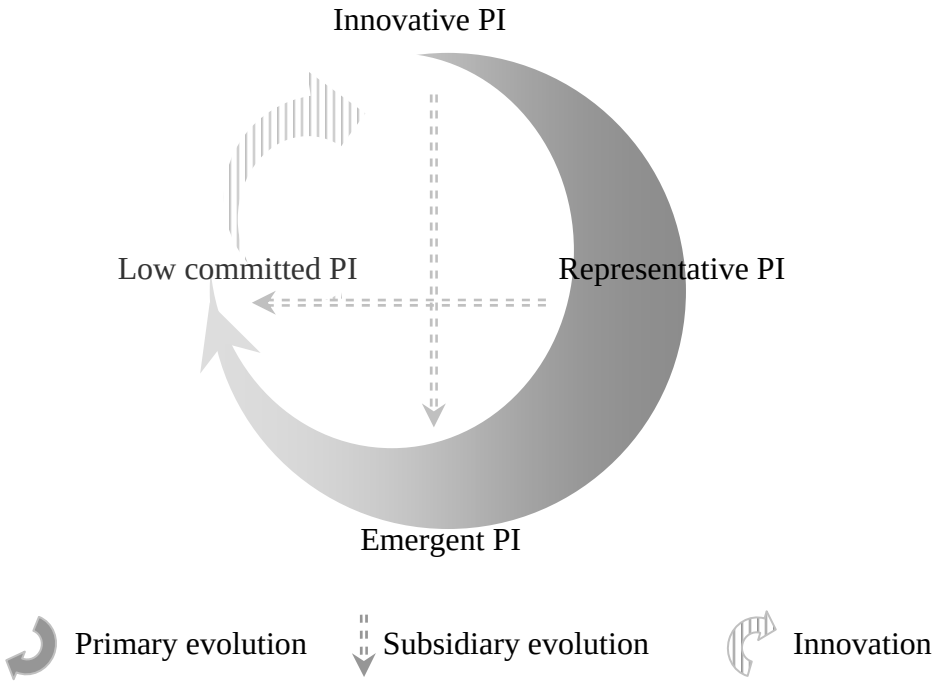


Figure 4-9: Evolution cycle of PI stages.

In practice, some parts of the identity in a new, innovative product can be seen to be continuities of the previous, declining one. Product Identity can be thought to advance in a manner that is both cyclic and progressive, with elements of both continuity and disruption.

4.1.5.4 PI stage development model for Chinese manufacturers.

Leading international companies usually adopt pioneering strategies, and therefore take up positions in the representative and innovative PI stages. This would include firms such as Sony, Apple, Samsung, etc. Currently, most Chinese manufacturers are arranged at a lower tier, and are inclined to emergent and low committed PI stages, coupled with safer dependent production and other traditional strategies. Sometimes Chinese manufacturers also step into the representative stage, and then – very rarely – they may test the market with innovative products. TCL's jewellery-embedded line and DoEasy from Bird are good examples here. See figure 4-10.

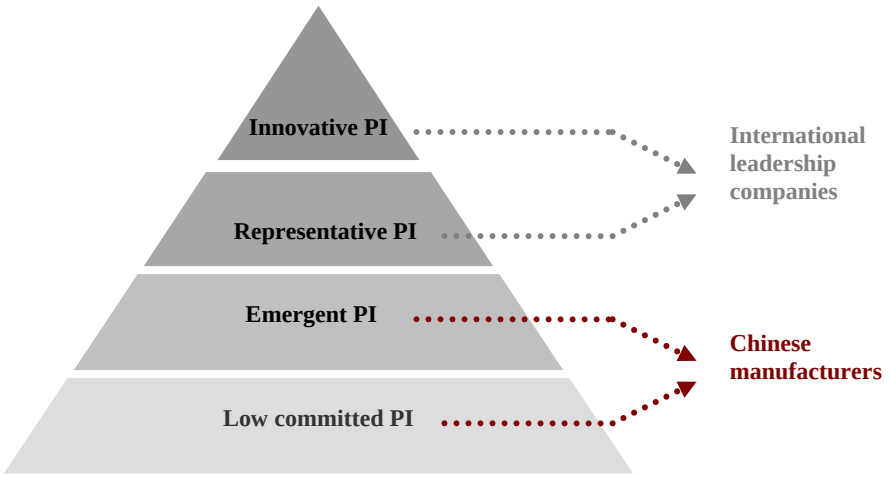


Figure 4-10: PI stages of international leadership companies and Chinese manufacturers.

As Chinese manufacturers are growing, a shift into higher PI stages may help them enlarge the advantages of their products so as to gain greater profit and market share. How to reach such a higher level is now a topic of intense interest among Chinese manufacturers. To cooperate with international companies, to establish new brands, to expand with new product lines – all these activities finally can be linked to a core need, which is to create new, innovative products. Every company that wants to improve and reach a higher stage, one efficient way is to rely on new products.

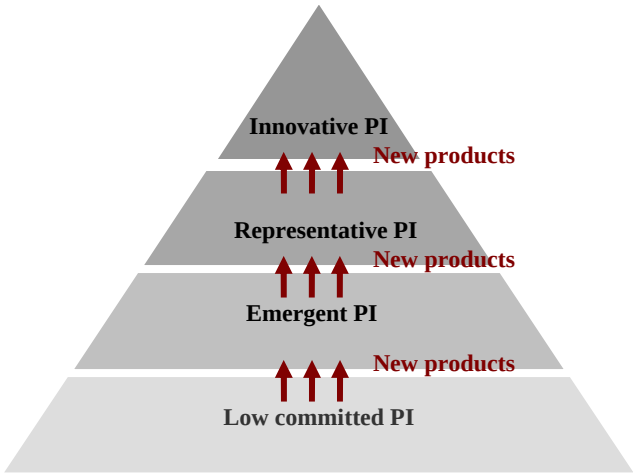


Figure 4-11: PI stages development process of Chinese manufacturers.

Figure 4-11 shows the process by which Chinese manufacturers move forward from the low committed PI stage to the innovative PI stage. Each step requires new product creation. Low committed PI stage companies (most of them are OEMs) move to the emergent PI level by addressing the design of their

products. While limited by their design capability, such firms can reach a higher level (representative and innovative PI) often by shadowing of leadership companies. Then, as the strength of design increases, with R&D capability enhanced, with market experience accumulated, and with the primary corporate reputation gained, such companies mature and move up to the representative PI stage with original design products. Companies in the representative stage have to maintain and enhance their product advantage to retain market share while at the same time they have to design new, innovative products so as to seize the opportunities of new markets. As a company advances through these stages, product development strategies shift a step higher, performance improves, predictability of products gets better, market share expands, and the corporate image appears more prosperous. However, once a company has achieved a higher stage, it may continue to practice in a previous one; therefore, a company usually has more than one PI stage operating at the same time.

To create new products is the only way for Chinese manufacturers to shift from a lower stage to a higher one, and concern for PI is likely to be the core and driving force to achieve this crucial process.

4.2 'Star Product' - Defining Strategies for Making Shifts in PI Stages.

There are mainly three kinds of new products a company produces. From the point of view of creation, new products can be classified into: innovative products, adapted products and continuation products; while correspondingly,

from the viewpoint of marketing: strategic products, priority products and supplemental products are related to these three new product types (Masahiro Takahashi, 1999, p35). Continuation products (supplemental products) are produced to ameliorate the existing products, to reduce costs and extract more benefit; this is mainly driven by business motives. Adapted products (priority products) follow the product life cycle into the 'next step' to satisfy the consumers' further desires based on an existing product by adapt technological improvements and making improvements in design. This is essentially underpinned by the nature of current product development and the market as it already exists. Innovative products (strategic products) are designed to address new demands and trends and to create new markets or even offer new concepts for products. It could be the innovation of design or together with technology leap. The ultimate goal of introducing such products is to improve the image of the brand and therefore to shift the reputation of the company. Innovative products are the most important type for a company that wants to reach the highest level so as to improve its total image with stakeholders.

To shift PI from a lower stage to a higher stage ultimately requires a concern for new, innovative products. Among Chinese manufacturers, new products seldom reach the strategic innovation level because the overall product design capability is much lower than that of leading international companies. In the context of Chinese manufacturers, 'innovative product' usually is defined as a product which has essential advantages (design, or technology, or both) compared to existing products. It could be any type of the three new products discussed above. Therefore, here, a new concept --- "Star Product", is proposed for Chinese

manufacturers to differentiate their products from the ‘innovative products’ of international companies.

Star products don’t have to be limited to innovative products and take account of the realistic situation of Chinese design. Adapted products and continuation products also can be regarded as ‘Star products’ to the extent that they contribute to a pattern of gradual improvement.

Star products firstly have clearly advanced characteristics that distinguish them from existing products. Whatever the position of star products, the motive also is to expand the existing market or to create new market. And finally, star products contribute to raising the image of the company or together to increase its market share. As these are accepted by the market, other related new products will be produced with a certain characteristics maintained and developed. Finally, with a number of star products (or new star product line), the impact of the underlying characteristic(s) will become a constant Product Identity of these star products. With a star product(s), a company can improve its brand image in a very short and efficient way. And successful star product can come to direct product development. By this gradual and realistic process, PI can be moved forward to higher stages.

Star product strategy play is already happening among Chinese manufacturers and it is contributing to their movement into higher PI stages. Here two case studies are presented.

4.2.1 "Star Product" – case study of TCL

TCL 3188 can be seen as a significant star product (and can be regarded as an innovative product.) In fact, the jewellery concept for a mobile phone already existed in TCL Mobile before 3188. The very first jewellery-embedded mobile was TCL 999D which was launched in 2000; and in 2001, TCL launched other four jewellery-embedded models: 6898D, 8388, 8188 and 8988 (see as figure 4-12). At that moment, the target users of the jewellery-embedded mobile phone were male users. This is no doubt partly because during the early period when the mobile phone appeared in China, the very first user group were business professionals, and mainly men.

Figure 4-12: TCL's very early jewellery-embedded mobile targeting male users. From left to right: 999D (Aug 2000), 8988 (May 2001), 8388 (Aug 2001), 6898D (Sep 2001). (Adopted with the permission by TCL.)

As mobile phone became popular the user categories increased, and TCL noticed that a huge potential market – female users – was emergent. TCL 3188 was designed especially for female users and it had a great success in a very short time. This was perhaps driven by the circumstance that the 'jewellery concept' was already important and clearly recognised by women in respect to accessories.

Then based on 3188, and inheriting both its female and jewellery-embedded character, TCL Mobile established a new product line specialized for female users and launched a further ten models after the TCL 3188 (please refer to Figure 3-8). This star product line helped TCL Mobile become the first producer to address the new market of female users. TCL Mobile shook off its shadowing image and became a leader among Chinese mobile phone manufacturers. This jewellery-embedded design was so successful and it was introduced to TCL TV sets and DVD players as well. It became a symbol of TCL Group and the jewellery culture became a very important part of TCL's corporate culture. A fresh new look was built and the jewellery mobile culture was recognised by the public as part of the unique TCL product identity.

As the mobile phone is no longer a precious thing and the jewellery culture no longer suitable to the market, TCL Mobile is now focusing on developing new high-end mobile designs, and in 2005 it launched two star products e787 and e797 (see at Figure 4-13). The new star product line offers a strong high-end and high-tech identity which is very different from other models (Figure 4-14 older models in TCL's e series).

Figure 4-13: Two new star products in TCL's e series: e797 (left, indicating opening mechanism) and e787 (right), both launched in July 2005.

(Adopted with the permission by TCL.)

Figure 4-14: Four old models in TCL's e series. From left to right: e757 (Sep 2003), e767 (Jun 2004), e737 (Feb 2005) and e777 (Jun 2005).

(Adopted with the permission by TCL.)

From the latest interview with TCL Mobile in July 2005[75], Mr. Han Jiufeng revealed the current new product strategy is to focus on innovative product development especially in respect to high-end mobile phones. TCL Mobile expects the two new star models (designed by TCL's new design centre in France[76]) can establish a new image for the firm, indicating that TCL has the ability to create high-end mobile phones which can compete even with international leadership companies both in the domestic and global market. A series of new products with the same design concept will be launched in the near

[75] Interview with TCL Mobile in July 2005, with Mr. Han Jiufeng, Vice Director of ID Department, TCL Mobile. (Please refer to Appendix 1 in appendices for the list of interviews.)

[76] TCL Mobile recently established two new design centres in France and Shanghai, China. With its Huizhou design centre, TCL Mobile now has three design teams. While the Shanghai design centre will be more and more in charge of the design. Chinese designers with international experience will be recruited for this office. The centre has been managed by Noel Kerjean (a French designer of Asian origin) since January 2005.

future and the product identity of these new star products will be maintained and developed. The underlying phenomenon is that TCL's design team is trying to pioneer PI through the development of its professional product lines. Please refer to Appendix 4 in appendices regarding the star products of TCL.

4.2.2 "Star Product" – case study of Bird

Similarly, Bird, with its high-end professional sub-brand DoEasy (launched in 2003), released a star product, the DoEasy X8 (figure 4-15), in March 2005. This was designed by Ora-Ito (Ito Morabito), a French designer who has worked for international brands such as Louis Vuitton, Heineken, Nike, etc. His design for the DoEasy X8 integrated high-end styling with the latest technology and presented a brand new look for Bird. Together with other star products launch early this year, Bird is using these designs to declare its ambition to compete in the global market and also to take back lost ground in the domestic market. (Please refer to Appendix 5 in the appendices for more information about the models of Bird.)

Figure 4-15: DoEasy X8, the star product in DoEasy range of Bird, launched in March 2005. (Picture adapted from Bird's official website.)

4.3 PI Development in the Context of Chinese Product Design.

In this section, I focus on Product Identity building approaches among Chinese manufactures. Three detailed case studies are presented here: an on-going 'anonymous' Product Identity building project[77]; a heavy industry product line of SANY designed by S-Point Shanghai; and, ULTI – a new lighting control system designed by GP design centre.

These case studies were chosen so as to explore situations where sophisticated design support was being employed to evolve PI. S-Point is one of the top design firms in China which has very close collaborations with international design firms; GP design centre is the design department of Gold Peak Group, Hong Kong, which has a leadership position in Asia for most of its product categories including GP Batteries and CLIPSAL electrical installation products; while the on-going anonymous PI building project is supported by a very strong external consultant team including of an experienced Chinese design consultant company in Shenzhen, faculty from the School of Design in the Hong Kong Polytechnic University and other senior designers from France and UK.

[77] I am a participant in this project. Due to some strict confidentiality rules and Non-Disclosure agreements I signed, I am not allowed to reveal certain identifying information and details.

Based on domestic design circumstances, supported by international experts, these three case studies represent the advanced practice within Chinese manufacturing at the present moment.

These projects discussed in these case studies also include a contrasting selection of products in the market, ranging from capital goods to consumer goods, from industrial products to high-tech products. On the other hand, these case studies were also chosen so as to contrast different design motives and different product development strategies in different PI stages. From these three case studies, I will attempt to summarize an integrated PI approach in general which suits all stages of product development process as it is currently taking place in Chinese manufacturing.

4.3.1 PI building from basic conditions and values - an on-going anonymous Product Identity building project.

The goal of this project is to help one of the largest Chinese telecom manufacturers to establish an 'organic' PI system. This project was initially suggested in late 2001 by the designers in the firm's Industrial Design (ID) department. The position and status of the ID department in the company structure is quite low, and it is therefore difficult to gain acceptance for and sustain the value of PI with senior managers in the company. However, after a long period of persuasion, management gave approval and the project finally stared in June 2005. The project team includes: the ID department of the firm, a senior design consultant firm in Shenzhen (which is the project leader), a strategic design

consultant team from the School of Design of the Hong Kong Polytechnic University, and some sophisticated design consultants from France and UK.

The company provides innovative and customized network solutions for telecom carriers. It specializes in the areas of fixed networks, mobile networks, optical networks, data communications, and value-added services. Its products (not including services) now have two major categories: network products and mobile handsets. As the company expands, its market has extended to worldwide. Products are becoming diversified to satisfy the various needs of clients, especially for the network products. Network products have three product lines, which are fixed-line networks, optical networks and datacom networks; and together these comprise over one hundred different individual products annually, and the number is continually increasing.

Designers in the ID department are all local professionals and consist of product designers and graphic designers. The scale of the design team (fluctuating, but about 20) compared to the R&D group (over 300, and housed at the firms's headquarter office) is too small to carry out such mass of design tasks. Over half of the firm's design projects are placed with external design firms and therefore the internal designers become project supervisors, with a large role in quality assurance. However, the firm does not have systematic principles and standards to guide the design output, and this is amplified by frequent turnover of project supervisors (the staff of the ID department change frequently) and by the use of a number of different external design firms. As a result products are poorly related to one another in respect to design and production is often chaotic; this is even creating problems for corporate management. The situation resembles that of IBM

in the early 1990's when it tried to listen to every one of its clients so as to reclaim lost market; and the diversity of responses it made had the contrary result of bringing confusion and disillusionment to the design and production process (Stuart Crainer and Des Dearlove, 2003, p.86-91)). For IBM, design standards became increasingly important and were urgently sought to provide product line unity. This project was started under similar conditions.

The mission is to establish a PI system for three network product lines and then employ this PI system to re-design three products in each product line as the representative models (prototypes). After three months of research and preparation, the project team proposed a PI building process which was divided into five major phases: concept clarification, strategy identification, concept design, finalization, and finally, (PI system) expression and evaluation. See figure 4-16.

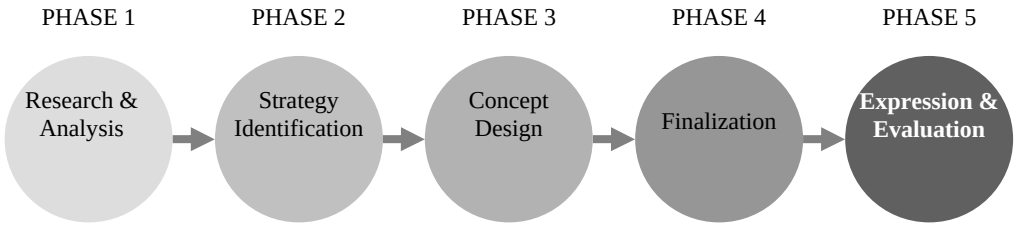


Figure 4-16: PI building process for the anonymous Chinese manufacturer.

a) Phase 1

The major task for the first phase is to collect all the essential concepts and information, so as to achieve a solid understanding of the company's core values and vision (including corporate philosophy, corporate culture, corporate identity), to evaluate the existing PI system (actually, no such system or design standards

are defined), to investigate users' needs and perceptions, to clarify the image of existing products, to identify the strengths and weaknesses of its existing products in comparison with competitors, to conduct a technology and design trend review of target products, to explore concepts and approaches of PI from knowledge and experience. Communication is extremely crucial in this phase and all parties have to participate intensively. Leadership officers, senior managers, marketing personnel, users, R&D professionals, internal designers, external design consultants – all these parties have to work and interact together. A series of interactive activities were designed to achieve this, including lectures on PI and case studies by external consultants, forums on product design directions, workshops, group discussions and desktop research on corporate philosophy and other related issues. Questionnaires also played very important role in the primary investigations and information collection. This phase planed to be done within one and half months, while in practice it went much longer than expected.

b) Phase 2

The second phase focused on strategy identification. Based on all the accumulated and integrated research from the first phase, the major concept of the firm's PI system will be defined. This major concept is the core of the PI system, clarifying the spirit of the firms' products and providing a strong connection with the corporate culture and identity. This encompasses principal product attributes, PI position, product development strategy, future direction of product evolution, etc. A list of keywords to describe the concept will be proposed. Then the next task is to identify the tributary relation between proposed keywords and distinguish them into major keywords and subordinate keywords. A workshop

with all the parties (ideally) will select and confirm the keywords. A collection of visual references for each keyword will then be used to help to establish visual rules. Research on semiotics and a seminar will be arranged during this step. Group discussions are necessary to review the whole phase from time to time. All the parties are required to participate in this phase too. Four weeks is scheduled for this phase.

c) Phase 3

Concept design is the next step of this PI building process. The content is to establish an initial PI model for product attributes. To visualize the collected keywords mainly is designer's job, with the internal design team and external design consultants working together. As propositions are made, they will be shared with senior managers and marketing personnel to evaluate applicability. A consolidation of visual strategy and an overall solution will be presented at the end of this phase. The visualization of the design concept requires the designers (and others) to attain a solid understanding of corporate identity and brand identity in the company, to use design language to visualise this concept, while also addressing the nature and future design direction of certain product attributes. This process is schedule for two weeks duration, initially.

d) Phase 4

Finalization is sought here, to refine the PI solution, to finalize the PI system and to consolidate design specifications (PI menu). Internal and external designers will play the major role here. A series of detailed product design

standards will be extracted and defined from phase 3. And the selected three models in each product line will be taken to demonstrate the practice of the PI system. Communication with R&D professionals is very important in this phase as this has been a source of design 'compromises' in the past. Other parties, such as senior managers, marketing personnel and even users (ideally), will be engaged for feedback regarding the realisation of the PI system. This phase is assigned two months.

e) Phase 5

Finally, the new PI system together with three design prototypes will be examined and evaluated. Preparation for the PI system launch will then be required after final modifications. Senior managers will take the lead in this final evaluation. The accomplishment of three product prototypes may take time; therefore another one month is expected.

The project is currently in its second phase and proceeding smoothly. However due to the strict confidentiality rules and Non-Dislcosure agreements I signed, what I can comment on in detail outside of this structure is very limited.

Short summary:

This PI building process is likely to be suitable for those firms which have a production history (such as OEM and early ODM) but where for historical reasons product identity has not previously been addressed. This is an establishment process for PI. The core of this PI building approach – and also the most difficult part – is to understand the corporate culture, corporate identity and emergent brand identity and to devise a consistent and robust way to express this

in products. Using semantics (the semantic differential method) in this project proved to be an extremely effective tool in guiding the direction of a design. And the wide range of people involved in each phase of the PI building process also was productive, contributing different strengths from each different party in each phase.

4.3.2 PI development and maintenance - SANY case study[78].

SANY Heavy Industry co., Ltd was established in 1994 in Changsha, Hunan with its main business the manufacturing of construction machinery products. Its major products include: concrete construction machinery such as trailer-mounted concrete pumpsand truck-mounted concrete pumps, high-grade road construction machinery such as full hydraulic vibratory rollers and asphalt pavers, shoveling conveyance and grabbing machinery such as full hydraulic bulldozers and crawling hydraulic excavators. Altogether there are fifty construction machinery products and their matched parts. SANY is the market leader for this equipment in China and is now reaching into the global market.

S-Point is the first industrial design firm established in 1997 in Shanghai. In 2003 S-Point joined the global group, DesignAffairs, and became even more involved in the international environment with broadened information resources. IT employs designers from different cultural backgrounds and experience, and its

[78] Interviews with S-Point were in March 2004, Sep 2004 and Aug 2005 (via telephone), with Mr. Zhou Yi, the President of S-Point, Mr. Tim Richter, the vice President, Mr. Hao Jiandong, design manger of team A, Zhu Yiqing, design manager of team B, Mr. Alvin Zhong, design research manager, Miss Shen Xiaoyan, designer. (Please refer to Appendix 1 in appendices for the list of interviews.)

clients include international firms, such as Intel, Siemens, Electrolux, Alcatel, Sakura, etc.

SANY began to work with S-Point to design its industrial products in 2002. The first design project – mounted concrete pump truck – has become one of SANY's most popular selling models, This project is thought to be very successful on account of its underlying concept of humanized design - for which it also won the 'IF design award China 2003' (see as figure 4-17).

Figure 4-17: SANY's mounted concrete pump truck designed by S-Point in 2003

(Adopted with the permission by SANY and S-Point.)

After this delightful collaboration, the partnership between SANY and S-Point formed. Just after the new truck was launched in the market, SANY

committed S-Point to design its whole arrange of truck categories, for a total of twelve trucks. The project started in Sep 2003.

S-Point has four design teams and one engineering team. To deal with such a large project, S-Point mobilized all four design teams and a design competition was first started between them to identify an overall design concept. Each team submitted four different design concepts based on their experience and their understanding of SANY's needs. The concept from team A was 'car styling'- power, humanity and safety composing the main contents; team B came out with a concept 'brand inheritance' that extracted elements which could represent brand identity from SANY's former models and used these to develop them new designs; team C was concerned with the integrated visual impact of products and devised a striking 'V series' design concept; while team D proposed the most detailed styling concept which included attention to edges, angles and contrasts of colour and form.

The various proposals were then reviewed by SANY's management. 'Car styling' by team was chosen and became the major design concept for all the twelve new products. Apart from the perspective of design, the major reason for SANY to adopt this proposal was its desire to build a sustained product identity that built on the success of the mounted concrete pump truck. The project manager of team A, Mr. Hao Jiandong, was also the chief designer of the truck. So it was easier for team A to 'catch the spirit' of this as they already had experience and understanding based on the prior work.

Twelve design tasks were then assigned to four design teams under the direction of team A. in the first phase, team A took charge of five trucks and each

other team was assigned one truck each. Thereafter, detailed visual design began. It is not necessary to describe the whole design process. Here, I want to emphasize how designers worked to create a family resemblance among models, extracting product identity from a prototype product; this allowed for the definition of major design standards (PI menu) which restricted subsequent design outcomes while also serving as a framework that could be maintained and developed.

The concept 'car styling' was defined by three keywords: power, humanity and safety. These three keywords were also the core design concept for the prototype (SANY's mounted concrete pump truck). These three keywords represent rough ideas and suggest the image of the new products. The twelve new trucks were Trailer-mounted Concrete Pump**,** Vibrating Roller**,** Asphalt Paver, etc, and they are in many respects very different when compared with the prototype. Therefore, new design standards had to be first created which were separate from and independent of the prototype.

The painting of the new trucks was the first design standard to be established. S-Point had already designed a new logo and a series of new colour schemes for SANY in 2002. This was incorporated in the standard. Figure 4-18 shows a comparison between the prior appearance and the new standard.

Figure 4-18: Comparison of existing painting solutions. On the left is the old solution and on the right is the new solution S-Point designed for SANY in 2002. (Adopted with the permission by S-Point and SANY.)

The main yellow colour is accompanied red (the same as the logo) while black is used as a subsidiary or assistant colour. The proportion and the position of the red and black colour were arranged in each new design to give an impression of 'power' as an attribute of SANY's industrial products. For instance, the scale of black colour was enlarged in the Trailer-mounted Concrete Pump to create a more powerful look (refer to figure 4-23 for the new designed Trailer-mounted Concrete Pump).

Then the designers turned to the formal qualities of the 'car styling' approach. They proposed to use curves in the design of these heavy industrial trucks so as to create the feeling of an ordinarily consumer car. They used this to develop several solutions for a 'car look,' and mainly focused on the front of the truck. Figure 4-19 shows some drafts of the front end design using curves.

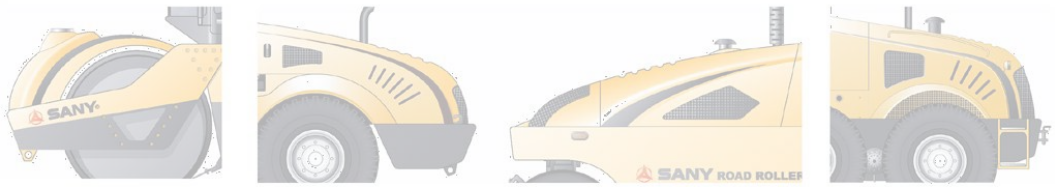
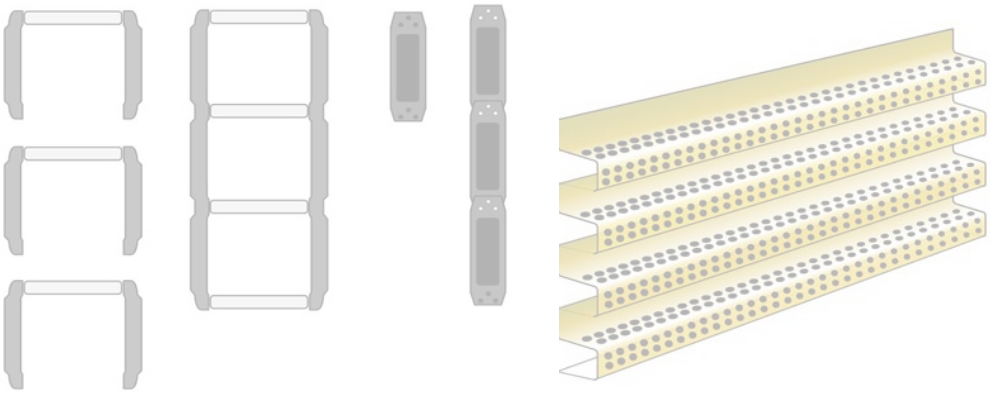


Figure 4-19: Some design drafts for the front part of the truck using curve-design to create a car looking. (Adapted with the permission by S-Point and SANY.)

The cab of the trucks was also defined as an important design element. The designers proposed a module of a cab room that could be used in all the trucks where a cab room is required (some small necessary modification will be made on each different truck). They used big windows to provide convenience and satisfaction to the user, as well as a sense of safety and humanity. See figure 4-20.

Figure 4-20: Solution for cab room. On the left is the prototype for cab design; and on the right is the final cab solution for vibratory roller.
(Adapted with the permission by S-Point and SANY.)

Other detailed modules like the ladder, the blowhole design, the opening solution, etc (refer to figure 4-21), were designed to help regularise and restrict the design results. A series of design standards was established (mainly by team A) and the creativity of designers was oriented to sustain a broad and consistent.



(a) Ladder design (b) Blowhole design

Figure 4-21: Other detailed design solutions. (Adapted with the permission by S-Point and SANY.)

The utilization of new materials and new technology also allows new products to have a distinctive character and may be an important part of product identity. A hyperbolic window using new fibreglass is the prime technology which allowed for the realisation of the curved design used in the new SANY range.

With the resolution of other design details and specific issues relating to each machine, the full set of new models was finished by the middle of 2004. The subsequent production stage was more difficult than the designers expected and until now only a few of the new models have reached the market. Here, I was allowed to use images of two new SANY heavy industrial trucks (figure 4-22 and figure 4-23), other new designs are still under the process of production and SANY has declined me permission to show them.

Figure 4-22: SANY's new Vibrating Roller designed by S-Point in 2004.

(Adapted with the permission by S-Point and SANY.)

Figure 4-23: SANY's new Trailer-mounted Concrete Pump designed by S-Point in 2004. (Adapted with the permission by S-Point and SANY.)

Short summary:

This PI development approach used by S-Point in its work with SANY emphasized design standard building and conditions for further development. To develop a product identity might begin with a single product, but one cannot rely on this exclusively. This case study provides a good example demonstrating how a Chinese firm and its design consultants worked to maintain and develop PI focusing on material aspects in particular.

4.3.3 PI Innovation - ULTI[79] case study.

Clipsal Industries (Holdings) Limited, is a member company of Gold Peak Industries (Holdings) Limited, and is principally engaged in the development, manufacture and marketing of electrical installation products. Its main products include switches, sockets, lighting products, telecommunication accessories and building automation systems. Clipsal Group is one of the major suppliers of electrical installation products in Asia.

The major products of Clipsal have the biggest market share in Asia but most of them are in the position of rather 'ordinary' commodity-like goods used in the construction trade. Clipsal has therefore begun to seek some means to differentiate itself as a brand, bringing new, advanced look to the company. The R&D team in Clipsal was inspired by the European lifestyle, together with the

[79] Interview with CLIPSAL Corporation in March 2003, with Mr. Simon Davies, Director of Product Planning; Ms. Grace Lo, Senior Manager of Business Development. (Refer to Appendix 1 in appendices for the list of interviews.)

prospects of improving consumer experience using advanced technology; from this the idea of a wireless switching system emerged. This was realised in 2003 with the creation of ULTI, a new sub-brand of Clipsal which aims at the high-end switch market.

In this case study of ULTI, I emphasise the relationship between brand identity and product identity, and, the place of PI in innovative. This can be seen by an analysis of the product design process.

Clipsal's brand image is in the middle of the market; its products are reliable but not remarkably high-tech. In order for the company to bring a fresh new image to the market, it was initially determined that the use of this parent brand might not be appropriate. Instead, establishing a new brand seemed the best solution. Therefore, a new brand identity was required to be established before the product design. It was very interesting that product design concept evolved at the same time as and in tandem with the building of brand identity and this resulted in an unusually strong connection between Product Identity and Brand Identity.

The process began with the naming of ULTI. It started from an internal program and only half of the people in the final development group were involved. The initial idea was that their switch is an "Ultimate Switch". As the product evolved, they checked name registration in China and they found that 'ultimate' and related names were already registered. Consequently they changed it to a shorter version, "ULTI". They found that this name had a 'European feeling,' sounded 'international' and suggested high-end style. They desired a European feeling because most high-end switches are from Europe. They registered it after they checked the name registration in China.

Next, came the development of the logo. At the beginning, they were not unhappy with the logo. But later on, the team felt that the logo had a high potential and they felt it could articulate the identity of the product. This was in part because the logo suggested the module nature of the product, whereby it is allowed it to "grow" through different customisation. Similarly, the logo could change colours and be imposed on different materials, and they found that this would also allow them to grow the logo at different stages in the product line.

Figure 4-24: The evolution of ULTI's logo.
(Adopted with the permission by Clipsal.)

After finishing the name and logo, they set up a product design team. Product designers strived for quality, and a cheap and user-friendly solution. In the initial design, a key issue they spent much time working on was the unique appearance of the product and the conflicting preferences of the various team members. For instance, designers liked the blue light very much because at night they can see the button, the symbol of ULTI. During the development, the first difficulty they met was an engineering problem. The product designers desired a slim switch but a mechanical engineer indicated that it was limited by the size of the battery. The two parties needed to work out a compromise to find the solution. At last, they achieved the slim feeling through design by making it look slim, though it is not slim at all.

In the actual concept design, these were lots of interaction between the product designers and senior managers of the new brand. They tried to make demonstrations or sketches for their concept and got feedback from the others. The design management participated in this process and sought to get a strong statement of the product before them. The designers knew that ULTI was to be elegant, have a European feeling (does not look like a traditional Hong Kong product), appear high-end, have good finishing and be made with good materials. They wanted the ULTI switch to have a 'lifestyle look' but to allow it to change its appearance by changing the plate on it, like the way Nokia does with their mobile phone shells. They spent a lot of time to solve the problem on the front plate and buttons of the switch. Some of these were engineering problems like choosing the wrong type of tool switches (The engineers proposed some good tool switches but their look was 'cheap.' Moreover, they found that even the sound of the switch affects a person's perception as to whether a switch is good or bad). For the socket portion, the designers looked for a user-friendly solution. So they designed a simple and effective way for socket upgrade instead of rewiring the socket on the wall. For the glass model of the switchplate, they also spent a lot of time and money to make it to pass through a dropping test. The switch is expensive and the hope it is for a high tolerance product, and in this they looked to Europe to benchmark the quality. For the front plate decoration and the lighted ring, it was found that some colours are better matched together while others were not (e.g. a cold colour ring light is better matched with a warm colour switchplate). To acknowledge this they defined a "sex" for the materials of the ULTI switches with matches of 30 different materials. This is a special and interesting aspect in their design standards. This idea is particularly useful for user customization since

it allows a customer to match the switches with wallpapers and other wall treatments. They showed some models to selected interior designers, so as to consider how the switch could be made part of interior design practices. The flexibility of the switchplate was welcomed by the interior designers, and the ULTI business team reasoned that this would help them secure larger contracts as well.

The prototype development started with marketing studies. They employed an outside marketing company to conduct a user test. Some potential buyers, who are mainly large house owners or interior designers, were involved in the test. The ULTI team was able to get feedback and suggestions from the users quickly. Most of them were concerned with colours and 20 different colours were made for the prototypes. As a result, the marketing research was mainly on colours and some price sensitivity, which gave them some insight about how to market the product.

Finally, they developed supporting materials, including a brochure, packaging, etc. People involved in this were mostly core members of the team that had been working on the project since its inception. Their direction was clear: that they wanted ULTI to be a completely new brand. They did not want to have a strong association with its parent Clipsal as they want to establish ULTI in a higher market segment than Clipsal. As a result, they only wanted to show that ULTI is “a Clipsal concept” in the logo and brochure. The packaging was also treated as an important signature for the brand. They spent time in designing the package, including the arrangement for placing the parts in the package, as well as the user manual.

Figure 4-25: ULTI's wireless switch. (Adopted with the permission by Clipsal.)

Figure 4-26: ULTI's wireless switch family (with different materials and colours). (Adopted with the permission by Clipsal.)

ULTI was first launched in Hong Kong and China. To prepare for the initial launch, the designers undertook research on other products which may interact with the switch. They looked into all sorts of architecture, interior design, rental, hotel, home and office environments to search for ideas. At last, their work resulted in three plate finishes; one was white since there was still a huge market for white switches, one was silver and the last one was made of glass. Moreover, from this research they found that most people make their purchase decision by outlook only. Even for this high-tech switch where a lot of technology is involved, they know that they needed to make a stunning outlook. They also found those

actual customers in Hong Kong, such as hotel managers, are choosing the product by listening to the recommendation of others, such as interior designers. While in China, which is seen as the biggest potential market, customers prefer to participate in the switch choosing process themselves. This revealed a difference in consumer behaviour which further informed marketing.

The product design process lasted twenty-three weeks. The whole design team involved twelve to fifteen people, distributed among five small teams: a product design team lead by two senior managers – Victor Lo (CEO of Gold Peak) and Andrew Chuang; a brand identity design team lead by Freeman Lau (a well-known graphic designer in Hong Kong who had previously worked with Gold Peak); a marketing team lead by Grace Lo; an engineering team mainly form Hong Kong with some members remotely participating from Shanghai and Beijing; and a design management group led by Simon Davies (Head of the Design Department of Gold Peak). In the meeting they went through every aspect in the product agenda and they were encouraged to discuss anything with the design management team. For ULTI, as this was a new brand, they searched for a consistent design language. They tried to keep the designers focused by using key teams and small groups. As even such a technologically sophisticated product might be easily copied by others, it was also very important to imagine how to keep this product ahead of others.

Two years since it was launched in the market, ULTI keeps evolving, providing an image of pioneering leadership in the market.

Short summary:

Establishing a sub-brand is one of the most common ways that a Chinese manufacturer can act to extend its market; and it is also a very effective and rapid way to build a new image with the public (in effect, cutting off the parent corporate image or brand image). The design process for ULTI also shows how a new product identity was built from and in tandem with brand identity. While PI is strongly linked to BI and VI, product becomes more powerful. It is very useful example for Chinese manufacturers to learn from where they are attempting to shift to a higher PI stage through innovative PI development.

4.3.4 Conclusion – an integrated PI development process

These three case studies have considered the product identity issues as they are addressed in China by senior design support; on the basis of this I wish to suggest an integrated Product Identity development process for Chinese manufacturers. The Product Identity building process consider of six major phases: main concept clarification, strategy identification, concept design, overall finalization, market evaluation, and maintenance and development. This is represented graphically in figure 4-27.

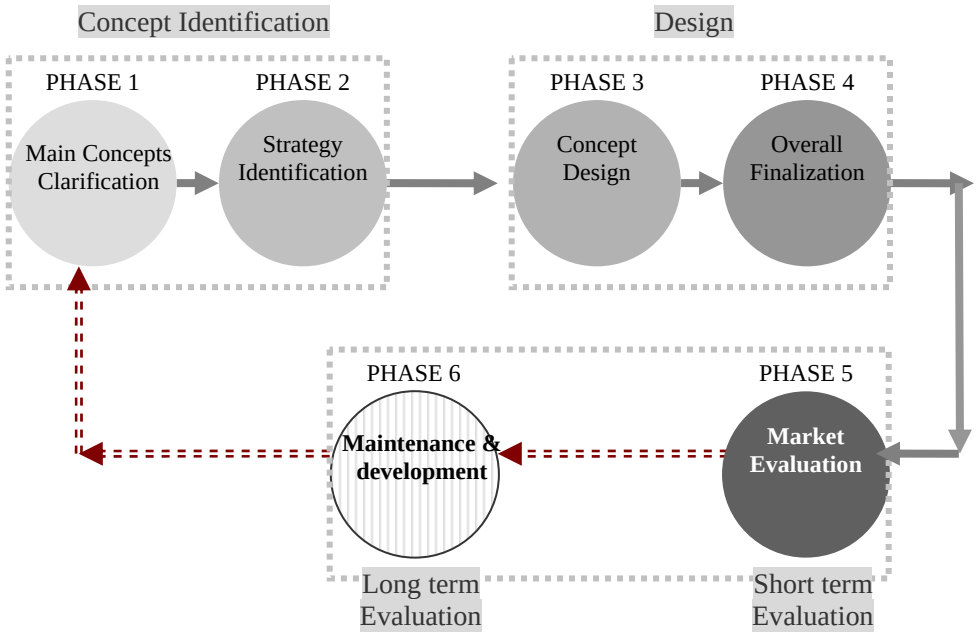


Figure 4-27: General schema for

an integrated Product Identity development process

As mentioned above, these case studies were also chosen on account of the different design motives that were brought to them (providing different origins for Product Identity) and the different product development strategies of which they were a part. The first one originated from a design management intention and was driven by the desire for stability in the representative Product Identity stage; SANY can be regarded as having a product styling origin while seeking ways to evolve towards the innovative stage. While the last one, ULTI, is driven from a desire for brand extension where a new and innovative product is required. In every case, a solid understanding of corporate culture is the core, driving the whole process. This is fundamental: the most difficult part of the Product Identity development process is concept identification which can reflect the spirit of a corporate culture and corporate identity, and – most of the time – brand identity. It

concerns the key points of the corporation and brand, including the nature of the company, its employee, users, markets, competitors, products, services, product develop direction, finance, communication, politics, etc. There are many different ways to approach this; the most common method using being to focus on a series of keywords that describe the design concepts. The keywords usually have two major types, the core keywords and sub-keywords, which are distinguished by the mobility of the concept. This method is based on studies of Semantics.

With the mission and core design concept defined, attention then turns to product design. Product design is very concerned with product identification – including the identification for a product's function, categorization, cultural content and symbolic value. Product attributes, including intrinsic and extrinsic elements, are suggested in response to these key words. Then the design must be visualized, using design languages to visualize the keywords and each product attribute in particular. From this, it can be seen that Product Identity building is actually part of the product development process. A set of design standards based on this visualization process is then developed; this is termed the 'Product Identity Menu' or 'Product Identity Guidelines.' In effective management, these are used to guide and define further product development. This is, of course, a difficult aspect or Product Identity building. On one hand, a company needs it to restrict its products to fit the corporate identity and brand identity so as to establish a stable and progressive image with the public; while on the other hand, to keep an advantage in the market it is required to innovate and change. And product identity also links to many other strategies, such as corporate strategies, market strategies, product development strategies, etc. Putting too much emphasis on the product identity will restrict the creativity brought to new products, especially

where some products have a very short product life cycle. Balancing positive and negative issues is very important to running a PI system. Even international leadership companies experience failure. There are so many things for Chinese manufacturers to learn.

The evaluation phase allows firms to examine the practicality and sustainability of product identity. In practice, a successful product identity is not approved in the boardroom but in the market. I want to emphasize here that PI building needs to be re-examined and re-valued from time to time especially when circumstances changes. Furthermore, change may come from within the pursuit of PI itself; this happened when PI matures, reaching towards the next stage of its life cycle. This was seen in the SANY case study (from introduction to growth) and the ULTI case study (innovation).

Chapter 5

Conclusion and Discussion

5.1 Conclusion of Major Findings

During this research, lots of interesting findings drew out. I summarize those major findings below.

5.1.1 The Concept of PI and its relation with other terms

In section 3.4.1, I shared my very roughly ideas about what is product identity. After a deeper study of PI's practice in China, I here present my conclusion of PI concept and its relation with other terms.

In respect of the fact that there is a lack of universally agreed definition of product identity, I find it more productive to propose a 'concept' instead of making an explicit 'definition.'

From the foregoing review of corporate communication, it can be seen that corporate identity, brand identity or visual identity are often divided into conceptual and operational aspects, and that they are treated as both practical and theoretical subjects. In this research I similarly discuss product identity from two aspects: conceptual and operational.

Conceptual Aspect of Product Identity

Product identity is a strategic tool of design management, through which it can convey corporate identity or brand identity into products. Product identity supports corporate identity and brand identity building in create a sustained and distinguishing image which the company struggles to be. Product Identity also means create advanced differences to others. It is a component of the Corporate Identity System.

Operational Aspect of Product Identity

Product Identity is a product development strategy in which a company seeks to establish identities for products during the stage of the product development. Product Identity also means create advanced differences to others. All tangible or intangible attributes be considered to reflect translate corporate identity and brand identity as well. Product Identity is also a means to maintain the consistency of corporate identity/brand identity by product design. A certain design policies are defined to standardize or have a better control of design outcomes. These certain policies are established on a solid understanding of corporate identity/brand identity.

To further understand Product Identity, it includes:

a) Philosophy

Product Identity is based on a solid and integrated understanding of corporate philosophy, corporate mission, corporate cultural, corporate identity and brand identity. In another word, the root of product identity is corporate

identity/brand identity. Product Identity supports to create the corporate image and brand image to stakeholders. A successful Product Identity is an accurate solution for the corporate identity and brand identity in respect to its product.

b) Consistency

Identity building is a long term efforts and never temporary, it is also about to keep the consistency. Reflected corporate culture and sensitive influenced by the changes of corporate identity and brand identity, product identity is a product development strategy links to them. Different product development type has different PI approach. Product Identity is a design policy which concerning about maintenance and innovation; constant and variable. These developments do not mean to break the brand consistency. It explains that product representation might be different due to the change of circumstance and conditions, while the corporate identity/ brand identity will remain the consistency.

c) Heritage

High inheritance exists in a corporation, from corporate identity to brand identity, and brand identity to product identity. While in practice, heritage also exists and presents the family relation in design products. And more detailed, it is concerns about the characteristics of product (product DNA). Heritage indicates a certain degree of continuity. And it is the way an identity is maintained. Heritage also proves consistency.

5.1.2 PI Development Stages

Product identity development stages are extracted from Chinese mobile phone industry in particular. Four different PI stages represent how deep product identity is involved in brand building in the context of product design. While it is not necessarily the case that all firms will go through all these stages, it is apparent that several have done so. It is also seen these PI development stages are not necessary limited only within mobile phone industry; it can be applied to the others as well.

5.1.3 An integrated PI Development Process

As section 4.3.4 already concluded a very detailed PI development process, here, I just want to share some view points in addition.

The establishment of corporate identity is a long-term process. PI building is the same. From the point where product identity is first introduced, through its growth and maturity and then its decline, many individual products are required and a vast number of individual decisions will be taken. I hope that by attending to the PI building process it can help Chinese manufacturers to have a clearer understanding of a key aspect of the product development, thus, to establish brand awareness and consistent brand identity in terms of product, and that this in turn can lead to further success and development in manufacturing.

5.1.4 Other Findings.

a) Offer an overview of China's product design, this helps to explain lots of typically Chinese problems such as the popular of copycats; the confusing of VI and CI, BI and CI, PI and BI; how Chinese manufacturers gain market in such a competitive circumstance quickly and efficiently, etc.
b) Aspects, characteristics and contents of Product Identity are identified and discussed. Links between PI, Design Management and Brand Management are clarified.
c) As a further understanding of PI stages, three major product identity approaches are presented, corresponding to three different product development strategies.
d) Star product is dictated as a significant PI strategy in terms of shifting to a higher PI development stage.

5.2 Contributions to the field.

Contributions of this research are as follow:

a) In the relative dearth of formal and academic discussion, clarification of the concept of Product Identity contributes to its understanding. This in turn can assist other researchers and designers in focusing on Product Identity within the Design Development Process. This aspect of the research may also appeal to scholars when they focus on the activities of product-based corporations.
b) The Product Identity stages that I have identified are a unique contribution derived from my case studies and analysis. While these were principally

proposed to better understand the situation of Chinese manufacturers, they may also have applicability to other circumstances and societies.

c) The Product Identity approaches I have identified are also a unique contribution allowing for a clearer appreciation of when and where Product Identity is linked to the Corporate Identity and Brand Identity. In addition, this suggests how Product Identity may be employed as a strategy in the Product Development Process.

d) The context of this research has been Chinese corporations, and this paper provides unique information – much of it in the form of interviews with principal participants - on circumstances that have been little reported or discussed.

e) Ultimately, this paper has also been concerned with identifying 'best practises' (or appropriate strategies) for the application of Product Identity in China. A clearer understanding of this may be of crucial significance to Chinese corporations, helping them to produce suitable products for a marketplace defined by global competition.

5.3 Issues that are still unresolved and further directions for research.

Ultimately this thesis can only address this subject at the level of an initial inquiry. Further work is required to examine how Product Identity in China is employed by a larger sample of manufacturers operating over a longer period in which there are cycles of feedback and other factors. As markets and manufacturers mature, regular uses and expectations of Product Identity will be observed; these may serve to substantiate or complicate the insights in this thesis.

But as matters stand, China is still in a time of enormous transformation and change is unceasing; it will be some time in the future when one can speak with certainty of patterns of Product Identity ‘with Chinese characteristics.’

Appendices:

Appendix 1: List of Interviews.

Company	Time	Venue	People	Information about the company and the section in thesis.
Interviews with Chinese design schools:				
Zhejiang University	From Sep 2004 to May 2005	Hangzhou	Prof. Xu Xihua and lecturer Ms. Yang Ying.	Section 2.2
Souther Yangzte University	From Sep 2004 to May 2005	Hong Kong	Mr.Gu Zhenyu. Lecturer.	http://www.sodcn.com/jsp/survey.jsp Section 2.2
Hu Nan University	From Sep 2004 to May 2005	Via tele-phone	Prof. Yang Xingyong and Assistant Prof. Zhao Gang.	http://id.hnu.net.cn/index.html Section 2.2
Tsinghua University	From Sep 2004 to May 2005	Beijing	Prof. Lu Xiaobo from Tsinghua University	http://ad.tsinghua.edu.cn Section 2.2
Interviews with Chinese manufacturers:				
TCL Mobile	March 2004	Huizhou	Mr. Zhang Yong, manager of Tactics Department.	TCL Mobile Co. Ltd,. www.tclmobile.com.cn. Section 2.5 Section 4.1.4.2
	March 2004	Huizhou	Mr. Han Jiufeng, Vice Director of ID Department, TCL Mobile.	
	July 2005	Via tele-phone	Mr. Han Jiufeng, Vice Director of ID Department, TCL Mobile.	Section 4.2
TCL TV	March 2004	Shenzhen	Mr. Zhang Jianwei, Deputy Director of Industrial Design.	TCL TV Co. Ltd,. www.tclTV.com.cn Section 4.2
TCL HK Office	April 2004	Hong Kong	Mr. Raymond Li, Manager of Business Development.	Section 2.5
Konka TV	March 2004	Shenzhen	Ms. Wu Yingda, Ms. Xin Huiying, senior designer in Industry Design Dept.	www.konka.com Section 4.1.2
Konka Mobile	March 2004	Shenzhen	Mr. Yao yuan, Manager of ID Dept. Mr. Wang Yin, designer in ID Dept.	www.konka.com Section 4.1.2
Huawei	Nov 2003, March 2004, Jun 2005, Jun 2006	Shenzhen	Mr. Chen Jing, Director of Mechanical & and Industrial Design. Mr.Xie Bin, ID Project Leader, Mr. Chen Xiaojun,	www.huawei.com.cn Case study

			Cooperate Manager, Mr. Ynag Zhiyan, Mr. Zhang Jinsong and Mr.Wang Li, designers.	
ZTE	First interview March 2004	Shanghai	Mr. Niu Beng, director of design department in ZTE, and some senior designers	http://tel.xuxn.com/Go.asp?url=http://www.zte.com.cn/index.jsp section 2.4
	Second interview July 2005, Latest Interview June 2006	Shanghai By Telephone	Mr. Niu Beng, director of design department in ZTE Mr. Niu Beng, director of design department in ZTE	
CLIPSAL	March 2003	Hong Kong	Mr. Simon Davies, Director of Product Planning; Ms. Grace Lo, Senior Manager of Business Development.	http://www.ulti.biz/ Section 4.3.3
Nokia Beijing	Nov 2004	Hong Kong	Mr.William Yau, Design Manager Nokia Design Asia-Pacific.	Section 2.7
Interviews with design firms:				
S-Point Shanghai	March 2004, Sep 2004 Aug 2005 May 2006	Shanghai And Via tele-phone Visiting	Mr. Zhou Yi, President of S-Point, Mr. Tim Richter, vice President, Mr. Hao Jiandong, design manager of team A, Zhu Yiqing, design manager of team B, Mr. Alvin Zhong, design research manager, Miss Shen Xiaoyan, designer Mr. Zhou Yi, President of S-Point,	www.spointdesignafairs.com section 2.7 and 4.3.2,
Nova Shanghai	Sep, 2004	Shanghai	Mr. Huang Sung Tung, Vice President, Mr. Jack Lin, Project Manager, Miss. Sylvia Liu, Vice Manager	Section 2.7
Ficth London	Nov, 2003	Via emails	Steve Hughes, Director.	www.fitchworldwide.com section 3.4.3
Seymour Powell, London.	Aug, 2004.	London	Kevin Mcullagh, Director.	www.seymourpowell.com section 3.4.3

Appendix 2: Major Questionnaires

a. Questionnaire for Chinese Mobile Phone Manufactures

Basic questions: (history, company structure, numbers of design, background)

The company:

1. Time of establishment and the type of company (partnership, limited Company or List Corporation).
2. Type of business (OEM, ODM or OBM).
3. Company's mission? Vision? And value?
4. The company structure.
5. Numbers of division and branch and their locations.
6. Number of employees.
7. Ownership of Brand if any (name of brand, local/aboard)
8. Product category and major market/s.
9. Net annual production (quantity) of products (mobile phone)
10. Net annual sales revenue (mobile phone)

Design department:

1. Time of establishment and development history.
2. Design department is an independent entity or a subsidiary of other department?
3. What's the positioning of design department? Who it should report to? Responsible to?
4. The relationship with other department.
5. How design is valued within the company? In what kind of context?
6. Does top management believe design can leverage 'profitability' of the company and hence future growth?

Designers:

1. Numbers of designers.
2. Discipline of these designers and corresponding number (industrial design, visual communication, packaging & styling, multimedia, modelling, engineering, and others).
3. Year of experience and corresponding number.
4. Designer background (origin, education and work experience)
5. The average time they work for the company.
6. The reason to stay or leave.
7. Hiring of external design consultancy/ freelance designer. If any, what the role? (more questions in the design task part)

Design managers:

1. Background of design manager.
2. The duty of design manager. Who she/he has to report to?
3. How long she/he worked for the company already?

Corporate culture and corporate identity

1. Describe your company's corporate culture?
2. Is there any clarified corporate culture? Corporate identity?
3. The awareness of corporate culture and identity in the design department.
4. Is there any training for corporate culture and identity (new designers)?
5. How is the visual identity? When it was designed / redesigned?

Design task

Internal:

1. Are there clear goal, mission and future plan set for the internal design department?
2. Numbers of mobile phones designed every year. And numbers of mobile phones launched to the market every year.
3. The sales performance of mobile phone and the best seller model.
4. Except design mobile phones, is there any other task the design department carries?

External:

1. Hiring of external design consultancy/freelance designer?
2. If any, what kinds of design service/s that your company required from design consultancy/ firms? (Conceptual design, product styling, engineering design, product graphic and packaging design, product design strategy, branding/brand strategy, market research and analysis, user research, product trend analysis, etc.)
3. Did the external design consultant's services meet the needs of the company?
5. Who is responsible for integrating their work?
6. Who lead and evaluate the project?

Product development process

1. Project objective/design objective.
2. Describe the general product development process in your company.
3. Time schedule of the process.
4. Who involved in the process?
5. How is the relationship between all the person/departments involved?
6. The involvement of design – when design is bought into the product development processes? Market identification/design orientation (e.g. market/consumer research); or product development (e.g. function improvement and design embodiment); or preproduction services (e.g. details design control and engineering).
7. Do functions such as marketing, sales and engineering share information and work in cooperation with design?
8. Some important issue within PDP. (Communication, objective, budget, time schedule, etc.)
9. Who is the one make the decision by stages and the final result?
10. Is there any design standard/principle to control or select design during each stage.

11. The principle to evaluate the final design.
12. Is there any link/consistency between the new product and the existing models?
13. If any, what kind of link? Design concept, user category, production issues, etc.

Product identity

1. The awareness of product identity.
2. What is product identity in your understanding?
3. What's the role of product identity in terms of product development?
4. The relationship between corporate identity, brand identity and product identity. The importance of product identity.
5. How you identify your product from the others? What's unique?
6. If already have product identity, how was it been identified? How does it work?
7. How you adept the product identity to new products? Or to the other extend products within your company?

b. Questionnaire for Chinese Design Firms

Basic questions: (history, company structure, numbers of design, background)

The design firm:

1. Time of establishment and development history.
2. Company's mission, vision, and value.
3. Company's positioning.
4. Numbers of branches and locations if any.
5. Company's international background if any.
6. Number of employees.
7. Company structure and ownership.
8. Types of design service offering, e.g. product design, graphics design, design strategy, etc.
9. Major clients.
10. Numbers of projects and the scale in each design service category.
11. Net revenue.
12. Future plan/direction for the growth.

Designers:

1. Numbers of designers.
2. Discipline of these designers and corresponding number (industrial design, visual communication, packaging & styling, multimedia, modelling, engineering, and others).
3. Year of experience and corresponding number.
4. Designer background (origin, education and work experience), international designers if any.

5. What's the average time they serve the company?
6. Designer recruitment and the market.
7. Difference between designers (especially different nationality and education background).

Design managers/project leaders:

1. Background of design manager.
2. What's the duty of design manager?
3. Who she/he has to report to?
4. How long she/he worked for the company already?

Product development process

1. Project objective/design objective
2. Describe the general product development process.
3. Time schedule of the process.
4. Who involved in the process?
5. How is the relationship between people involved?
6. The involvement of design – when design is bought into the product development processes? Market identification/design orientation (e.g. market/consumer research); or product development (e.g. function improvement and design embodiment); or preproduction services (e.g. details design control and engineering).
7. Do functions such as marketing, sales and engineering share information and work in cooperation with design?
8. Some important issue within PDP. (Communication, objective, budget, time schedule, etc.)
9. Who is the one make the decision by stages and the final result?
10. Is there any design standard/principle to control or select design during each stage.
11. The principle to evaluate the final design.
12. Is there any link/consistency between the new product and the existing models?
13. If any, what kind of link? Design concept, user category, production issues, etc.

Product identity

1. The awareness of product identity.
2. What is product identity in your understanding?
3. What's the role of product identity in terms of product development?
4. The relationship between corporate identity, brand identity and product identity.
5. If already have product identity, how was it been identified? How does it work?
6. How you adept the product identity to new products? Or to the other extend products within client's company?

c. Questionnaire for International Design Firms

Basic questions: (history, company structure, numbers of design, background)

The design firm:

1. Time of establishment and development history.
2. Company's mission, vision, and value.
3. Company's positioning.
4. Numbers of branches and locations if any.
5. Company's international background if any.
6. Number of employees.
7. Company structure and ownership.
8. Types of design service offering, e.g. product design, graphics design, design strategy, etc.
9. Major clients/ famous projects.
10. Numbers of projects and the scale in each design service category.
11. Net revenue.
12. Future plan/direction for the growth.

Designers:

1. Numbers of designers.
2. Discipline of these designers and corresponding number (industrial design, visual communication, packaging & styling, multimedia, modelling, engineering, and others).
3. Year of experience and corresponding number.
4. Designer background (origin, education and work experience), international designers if any.
5. What's the average time they serve the company?

Design managers/project leaders:

4. Background of design manager.
5. What's the duty of design manager?
6. Who she/he has to report to?
5. How long she/he worked for the company already?

Product development process and the link of PI

1. What is product identity in your understanding?
2. What's the role of product identity in terms of product development?
3. The relationship between corporate identity, brand identity and product identity.
4. How to build product identity based on the existing brand/corporate identity.
5. Give a case example of product development process links with PI.
6. How to balance the existing identity and innovations in terms of product development?
7. Some important issue within PDP. (Communication, objective, budget, time schedule, etc.)

d. Questionnaire for Design Schools

1. Time of establishment and development history.
2. Types of design service offering, e.g. art oriental or technique oriental?
3. Numbers of branches and locations if any.
4. Number of teachers and students.
5. The background of teachers.
6. Major courses and the change of courses through time.
7. International contact and collaboration.
8. Design research field and postgraduate education.
9. Future education plan/direction.

Appendix 3: Analysis of PI Stages

Part a: PDP in Chinese mobile phone manufacturers (Huawei, ZTE, TCL and Nokia Beijing).

PI strategy goes through out the design process. Therefore, I started from the analysis of Product Design Process (PDP). Here, I present four Product Development Processes of mobile phone design in Huawei, ZTE, TCL and Nokia Beijing respectively.

All the Information was collected from relevant interviews and conferences.

1. PDP in Huawei – U636

All the information in this case study was collected from interviews with Mr. Xie Bin, ID project leader, and Mr. Chen Xiaojun, cooperate manager, in Nov 2003 and March 2004, Shenzhen. (Please refer to Appendix 1 in appendices for the list of interviews.)

U636 (launched in early 2005) - Huawe's first 3G mobile phone

(Adopted with the permission by Huawei.)

The objective to make the first Huawei mobile phone was to test the market with lowest cost. Attracted by the high profit of mobile phone business, Huawei decided to enter into mobile phone market. With a position as an alternative choice or a free gift associated with its mobile networks, the top management team didn't want to invest too much. Therefore, to find a reliable supplier to manufacture mobile phone seemed to be the best way. After a trend research done by design department, Huawei signed a contract with Company S (name confidential) which was considered as the best representative of current mobile market trend. All the design works were done by Company S, aimed to create a trendy mobile phone with the lowest cost. Huawei took part of the final model selection which was mainly dominated by the cost – this part was monitored by marketing manager. The final section had no link with Huawei's brand identity and image even Huawei is well-known by its corporate identity. Huawei also in charge of the user interface design which mainly done by its IT

department. No design works involved during this process. And of cause, The whole process took only 3 months – including of user interface design and testing.

2. PDP in ZTE – ZTE A300

All the information in this case study was collected from interviews with Mr. Niu Beng, director of design department in ZTE, and some senior designers, in March 2004, Shanghai. (Please refer to Appendix 1 in appendices for the list of interviews.)

As there was already a detailed case study of ZTE A300 in section 4.1.4 (page 113 to 117), in order to avoid repeating, here, I summarize it only based on some selected elements which are significant to clarify different PI stages.

Samsung T108 (left) and ZTE A300 (right).

(Pictures downloaded from the official websites of Samsung and ZTE.)

Under the strategy of being a close follower of the best selling mobile phone brand, ZTE believed this strategy would help to secure its market share, especially in the tier 2 and tier 3 cities with its lower entry price. The leading brand Samsung, was chosen by its largest market share and also, surprisingly, the personal taste of the CEO.

Unlike Huawei, ZTE had much stronger design support – two design teams in China and South Korea. Most of the "following" tasks were carried by the Korean team. Creations were limited – to design a mobile which is much similar to the best selling model of Samsung but much cheaper in terms of cost. Apart from being cheaper, some major modifications were tailor made to meet the taste of Chinese users (from tier 2 and tier 3 cities). Designers work was more like structural engineers – lots of processes in the general PDP were missing in ZTE's product development. For instance, like market trend research, product code identification, etc.

No identity was taken in the account. Actually, being a best-selling brand's follower but with Chinese taste, this strange position gave an unclear perception of ZTE's brand identity.

The whole PDP took 2 or 6 months – much shorter than the normal mobile phone design.

3. PDP in TCL – the jewellery-embedded line

All the information in this case study was collected from interviews with Mr. Han Jiufeng, Vice Director of ID Department, TCL Mobile. (Please refer to Appendix 1 in appendices for the list of interviews.)

The same, as a detailed case study of TCL already presented in section 4.1.4 (page 117 to 121), in order to avoid repeating, here, I summarize it only by selected elements which are significant to clarify different PI stages.

TCL 3188 and the family of TCL's jewellery-embedded line.

(Adopted with the permission by TCL.)

Targeting the same market as ZET, TCL showed its interest of create something new, something beautiful. TCL 3188 is a perfect example for the marriage of profits and art creation. As I mentioned in the section 4.1.4, TCL 3188 was a nice design surprise rather than a well-planed design project. However, with its great unexpected success, it led the development of the famous TCL jewellery-embedded line. This model of 3188 has been used as a key prototype for corporate-wide product line with strong product identity – jewellery embedded. This identity was applied in to all the TCL products, like TV set, air conditioner, DVD player, personal computer and laptop, etc.

Jewellery-embedded identity was adapted into other TCL product categories, such as TV, air-conditioner and PCs. (Adopted with the permission by TCL.)

'Actualize technology aesthetically' is the core philosophy of TCL Mobile. The design department is highly valued and takes an important role in critical decisions about design, leading to high morale among design personnel. As much as 90% of design decisions are taken by designers. Design also takes a central concern of the company and is enunciated by senior management in their discussion of corporate culture and brand identity. Trainings aim to enhance the understanding of corporate culture and identity are a big part of the company's expense.

A usual 'design task' – based on the existing models – lasts five to six months. The first stage involves a market segment target presented by the marketing department. The design department then researches existing competitors' models and features. A design is then formulated in coordination with a project leader (a non-designer, representing management), engineers and marketing personnel. During the development, retail distributors may be involved

in evaluations. The resulting design typically combines TCL's PI with existing characteristics available in the market segment (in respect to functionality, impression of quality of fabrication, etc.)

While in the concept design – to create new product – lasts sixteen to eighteen months. Design ideas come before hardware development or other considerations and this acts to encourage innovation. Supporting concept design is also a consequence of identity.

4. PDP of Nokia – Nokia 6108, 3108 and 6807

All the information in this case study was collected from interviews with Mr. William Yau, Design Manager Nokia Design Asia-Pacific. (Please refer to Appendix 1 in appendices for the list of interviews.) Information also from some conferences which Mr. William Yau attended in Hong Kong Design Week 2005, Finland Design Seminar in the Hong Kong Polytechnic University, 2004.

As the word leading mobile phone brand, Nokia has been regarded as the innovator in mobile phone design. "Human design" and "connecting people" had guided Nokia as the design principles.

In year 2002, when Mr. William Yau just arrived in Nokia Beijing, a mission to design a very cultural mobile phone for Chinese market was appointed.

It started from a six-month market trend and user research. At the end, the mission became more clear with the consumer needs – to design a easy-input Chinese language mobile phone , stylish, compact, and feature-rich.

With believes of localisation is the key for markets in different regions, in May 2003, Nokia introduced its first pen-based Chinese language input mobile phone 6108 to the world to cater to the local needs in China and other markets in the Asia Pacific region. As the mass market uptake of SMS in China, the introduction of an intuitive pen-based mobile phone was the ideal in meeting consumers' needs.

The Chinese language input technology was already available – like what was already used in the blackberry, PDA, etc, the challenge was how to reflect the strong Chinese-motivated design and features incorporated in the Nokia 6108? The inspiration was Terracotta warrior. Nokia 6108 with a stylus attached to the back of the phone was depicted a Chinese warrior carrying a sword on his back. With its intuitive pen input capability to enhance messaging and other features such as the "Chinese-English-Chinese" dictionary, an extensive set of Chinese characters and the Lunar Calendar, Nokia 6108 presented a very attractive offering to the broader consumer segment in China and this region. It was a big success.

6108 belongs to the Nokia professional line, with more sophisticated features and high price. In order to reach more consumers, at the end of year 2003,

Nokia launched a sporty model of 6108 – 3108. Nokia 3108 was designed for more active and younger users. With almost the same functions, 3108 gives a more vivid, active look with its colourful plastic shell and outlines. The pen was changed into a bigger size with a harder feature. Keyboard was following the sporty line to keep the consistency.

Nokia 6108 (launched in early 2003)

Nokia 3108 (launched in late 2003)

(Pictures downloaded from the official websites of Nokia.)

Two years later, when 6108 no longer has the impression in the public, Nokia redesigned a model 6807 to replace it. Nokia 6807 got rid of the overload cover, enlarged the screen display, enchased with camera, mini-sized keyboard and pen. The meaning of being professional to Nokia changed with the market trends and the development of technologies. Overall, 6807 remained professional look and reputation. The professional line keeps its consistency.

Nokia 6807 (launched in 2005)

(Pictures downloaded from the official websites of Nokia.)

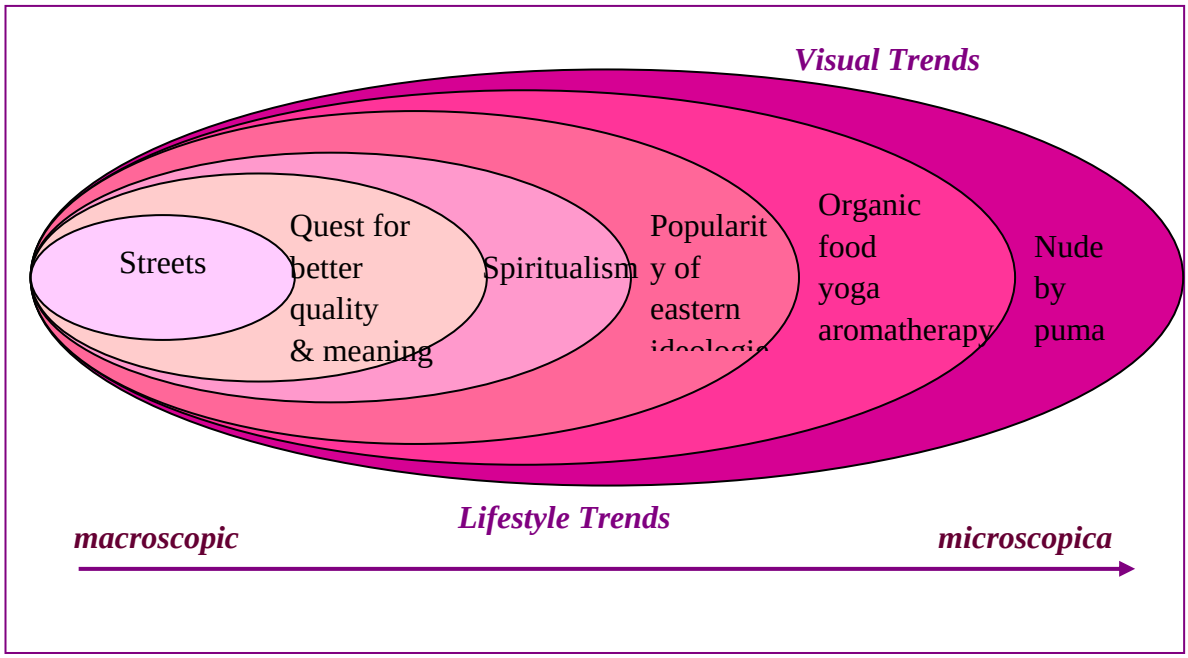
Here, I present a generally PDP of Nokia which I summarized from interviews and conferences. It takes 1 to 2 years.

Nokia PDP

1. Cultural influences
2. Human tough (research): visibility and ergonomics
3. Product categories (4 major categories)

- Live – inspiring self expression
- Connect – relevant simplicity
- Achievement -
- Multimedia – sharing discovery

4. Trends research



Example of trends research in Nokia

5. Ideas:

- Brand
- Strategy
- Technology
- Time schedule
- Compatibility
- Target group

- Cost target
- Product requirements

6. Scenarios
7. Sketch
8. Evaluation ideas: (product need to be identified by):
    - Is there existing concepts
    - End user knowledge
    - Innovation
    - Technology support
    - Usability
    - Ergonomics
    - Total concept
    - User interface
9. Concept direction
10. Concept development:
    - Colour (visibility of details)
    - Material (visibility of details)
    - Graphics (visibility of details)
    - Technology support
    - User interface
    - Ergonomics
    - Preliminary packaging

- Research

11. Concept freezing
12. Molding
13. Design support
14. Commercialized
    - Design detail
    - Marketing material

Part b: PI Stage analysis based on PDP

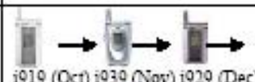
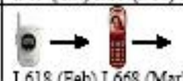
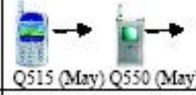
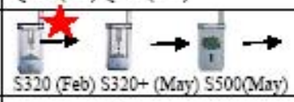
An analysis of PI stage is presented here. Based on the PDP in four different companies – Huawei, ZTE, TCL and Nokia Beijing, I try to figure out what really matter to make the difference of each PI stage. Major concerns are: is there any clear design objective? Who is the design support? How much did managers and designers involve in product development process? How made decisions? How much corporate identity/brand identity is concerned? Did it concern the consistency of identity? The analysis is list in the table below.

Stages of PI / Stages of PDP	Low committed PI: Copy-PI and Buying-PI	Representative PI: Shadow-Pin and Basket-PI	Emergent PI: Differentiating-PI and Independent-PI	Innovative PI
Interview Companies	Huawei	ZTE	TCL	Nokia Beijing
Mobile phone model	U636	A300	A 3188 and other jewellery-embedded models	6108, 3108, 6807.
Objective	Not a design objective, it was a pure idea of testing the market- to enter the market with the lowest cost (as mobile phone sells as a free accessory with Huawei's 3G network system)	To follow Samsung's best selling model T108. Targeting tier 2 and tier 3 cities.	To optimize the success of A3188, to apply its identity to other TCL products. To design something beautiful.	To design a mobile phone which meet the needs of China and Asia Pacific markets.
Design Support	Company S	ZTE's Korean design team	TCL mobile design team	Nokia Beijing design team
The degree of design involvement	Zero	Very low - Designers work like engineers.	High	Very high - the difference between Nokia Beijing and TCL can be found in the description of PDP – Nokia Beijing's PDP is far more sophisticated.
Decision making	Marketing manager	CEO	Design director, marketing manager	Design director
How much CI/BI was concerned	Zero	Very little "It almost doesn't matter, because we don't know what is our identity" – Mr. Niu Ben.	High - but without design guideline	Very high - Design guideline was developed by CI/BI.
Consistency	No.	Little - if only follow one brand, the consistency is better to control. Or No - if follow many brands.	High - but not always when the identity is not well translated.	Very high - with the control of expression of same identity in the latest trends and technology.

PI Stage analysis based on PDP

Appendix 4: "Star Product" - TCL mobile phone analysis (2000 to Aug 2005).

Star Product | Low committed PI and Emergent PI | Representative PI | Innovative PI

TCL	2000	2001	2002	2003	2004	2005
1 series			 1838 (Jul) 1828 (Dec)	 1898 (Feb) 1999(Oct)	 198 (May) 1688 (Oct)	
2 series			 2898 (May) 2188 (Oct)	 2288 (Jan) 2388 (Jan) 2688 (May) 2988 (May)		
3 series		 3000 (Dec)	 3188 (May) 3288 (Sep) 3388 (Sep) 3688 (Oct) 3988 (Nov) 3788 (Dec)	 3388+(Mar)3188+(Apr)3288+(May)3998 (Oct)	 3188c(Sep)3199 (Sep) 3588 (Nov)330 (Dec)	
5 series				 5188 (Aug) 5288 (Aug)		
6 series		 6898 (Sep)	 6198 (Mar) 6298 (May)		 618 (Oct) 650 (Nov)	
7 series				 718 (Dec)	 728 (Mar) 738 (May) 758(Nov) 759(Nov)  750 (Dec) 760 (Dec)	 768 (Apr) 766 (May) 782 (Jun)
8 series		 8988(May)8388(Aug)8688(Sep)8188 (Oct)	 9188 (Apr) 8198 (Jun) 8298 (Jun)		 808(Apr)828(May)858(Nov) 898(Nov)818 (Nov)	
9 series	 9980 (Jun) 999D (Aug)					
E series				 E757 (Sep)	 E767 (Jun)	 E737(Feb) E777(Jun) E787(Jul) E797(Jul)
I series				 i919 (Oct) i939 (Nov) i929 (Dec)		
L series				 L618 (Feb) L668 (Mar)		
Q series				 Q520 (Jun) Q510 (Dec)	 Q515 (May) Q550 (May)	
S series				 S320 (Feb) S320+ (May) S500(May)		
U series				 U2 (May) U3 (May)	 U8 (Apr)	

Appendix 5: "Star Product" - Bird's mobile phone analysis (2000 to Aug 2005).

★ Star Product Low committed PI and Emergent PI Representative PI Innovative PI

Bird	2000	2001	2002	2003	2004	2005
8 series		8180(Jul)8280(Oct)8288(Oct)		8289 (March)		
A series					A150 (Jan) A120 (Aug) A130 (Aug) A350 (Nov)	
C series			C58 (Mar) C68 (Nov)	C88 (Apr)		
D series					D200 (Aug)	DV10 (Jan)
G series			G100(Apr) G200(Oct) GC600(Sept)		G118 (Mar)	
M series	MC958(Sept) MC936 (Oct)					M09(May)M10(May)M08(Jul)M008(Aug)M108(Aug)
Q series		Q1600 (Nov)		HaQcool (May) Q268 (Aug) Q800 (Oct)		
S series		S1000 (Jan) S2000 (Oct)	S1500(Feb)S1000A(Mar)S1200(Mar) S1800(May)S1220 (Oct) S1100 (Dec) S1820 (Dec) S3220 (Dec)SC02 (Dec)	S3200(Jan)S4820(Mar)SC03(Mar)S1120(May) S1180(Jul)SC01 (Aug) SC10 (Sep) S1150 (Oct) S288 (May) S588(Aug)	S1160(Feb)S1180C (Feb)S1190 (Mar) S310(Jul) S788(Jan)S689(Aug)S570(Sep)S580(Nov)S590(Nov)	S789 (Mar) S889 (May)
V series			V08 (Oct)	V09 (Jan) V18 (May) V10 (Aug) V19 (Oct) V58 (Dec)	V5500(Jun)V5200 (Jun)V5600(Aug)V79(Sep) V89 (Sep) V5511 (Nov) V5100 (April)	V007 (Jan) V69 (Jan) V78 (Jan) V109 (Jul)
Women Star series				F1 (Jun) F1+ (Dec) F2 (Dec)	F4 (Apr) F3 (Jul)	
DoEasy				E868 (Aug) E858 (Aug)	E859 (May) E898 (Oct) E860 (Dec)	X8 (Mar)

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