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# **To Operate In E-Business of LED Market In China**



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## **To Operate E-Business of LED Market In China**

The LED lighting products are now as normal as mobile phones in our daily life. As many new products become popular in North America and Europe first, then the main manufacturing assembly line transfer to China or some other developing countries, the LED lighting industry follows exactly the same way.

This research aims for knowing how to operate e-business of LED market in China by studying how the LED industry in China runs till today, collecting essential industrial data and trying to forecast the tendency of its development. To analyze the actual challenges and risks based on theories precisely, the quantitative method of data collection and analysis is applied. This method is to collect official data from confidential industrial report, factory owners, and industry elites on both market statistics and the latest technology, in order to realize the practicality of the forecast and increase validity of e-business operation. Combined with the study of literature review as academic background of the development of this topic, a well structured questionnaire survey has been designed.

Basically two main trends for LED products were reinforcing at the moment. The first is an ongoing miniaturization. Another is the increasing number of power applications coming up due to higher chip efficiencies. The findings of this research are following the above phenomenon in the current LED industry. The consequence of investigation figures e-business of LED market in China and the potential entrepreneurial moves in the next few years.

Keywords:

LED, E-business, Marketing, Online Company, B2B, B2C, Strategy, Industry Development.

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# 1 Introduction

## 1.1 Background

In 1907, British inventor H. J. Round created the first Light-emitting diodes (LED). Since lighting industry has been developing continuously till today, different colour, size, shape, luminosities and its applications are widely expanded by more practical devices invented as technology flies. (Artgib, 2012)

In Japan and the surrounding Pacific Rim, it forms a manufacturing centre for supplying the majority of all the LED lamps and displays in the world. This is due to the fact that European and US based manufacturers source the assembly of their LED components in Asia, like the other traditional products' processing including electronics. Thus major LEDs manufacturers can be divided into four world geographic regions such as Japan, United States, Europe and the Asia-Pacific. Around the Asia-Pacific centre, suppliers are located in Taiwan with a few others in Korea. Mainland China is fast becoming a bigger site for manufacturing operations for Taiwanese suppliers. Its LED market occupancy is continuous enlarging.

In Japan, the major manufactures consist of Stanley, Matsushita, Nichia, Sanyo, and Kodenshi etc accounting for approximately 50 percent of the world market. The second largest supplier is the Asia-Pacific regions including Lite-On, Everlight, Ledtech etc. The Asia-Pacific region accounts for approximately 23 percent of all world sales. The third largest supplier of LED components is North America. Its major manufacturers include CREE, Hewlett-Packard, Fairchild Optoelectronics and Uniroyal Optoelectronics. Its market share in the world is estimated at 15 percent, while Europe is the fourth largest supplier. (Mehmet Arik, 2002)



E-commerce is a type of business activity which is operated through the electronic mediums. E-business has a major form which is online purchasing. It is the way to remove potential communication obstacles between businesses and customers which are created by distance and location, time zones, and culture differences. (Currie, 2000)

More and more LED Entrepreneurs are catching the high way of e-business as their best tool for distributing sales and promotion now. The leader of e-business platform is Alibaba in China. Although there are plenty of e-business platforms come out newly, Alibaba runs the most popular online market including LED products. Except the regional business activity and promotions, Chinese LED Entrepreneurs are focus on the online marketing mostly.

## **1.2 Objective**

The theoretical aim of this study is to explain how to operate a successful e-business under the situation of online LED market, as well as to understand the main elements of online strategies and the effective communication strategy to establish the long relationship with your customers. Innovation is the keyword to the e-business area. The practical objective of this study is to use both B2B & B2C commerce methods on Alibaba and other websites to promote brand reputation and products to clients. In the process of researching to get useful and correct information to explain how to market online successfully on Alibaba, and how to make profits by operating the LED online business in China.

There are 2 main study to make the objective of this research clear. First, how to start E-Business. Second, what specified LED product follows trend which affected by the change of economics and technology, which guides

entrepreneurs who which to set up online shop or company to choose the most wise product. Combing the study of both above, we could have a profitable decision in a right direction.

### **1.3 Thesis Structure**

The study is organized into chapters and sections that are intended to deepen the understanding of the reader before the research is introduced and analyzed.

Chapter 2 illustrate how the LED Industry has developed, what situation it is now and why it aim to be promoted online. The literature review includes online marketing and strategy planning in Chapter 4. In Chapter 5 reader will get more details why the brand image is quite important to the online company. How to keep and raise the brand reputation online are the crucial parts in this chapter. How to building a strong relationship with the customer is one of the reason why your online business is going to a successful way or vice versa. Readers through reading Chapter 6 will catch more details in keeping and maintaining the long-term relationship. Good customer relationship will bring visible and invisible benefits to your business. The Chapter 7 is an implementing process including all the effective elements which are necessarily considered by reading literatures to get intensive operation skills. Chapter 8 is a practical study part in this thesis. This chapter describes the statistics analysis, marketing strategies, risks analysis and data collection methods that have been adopted during the course of the study. To optimize the results, quantitative research methods are being used and analyzed. The research method is using questionnaires to collect the primary data. In the conclusion, the readers will understand what steps the e-business should be applied in LED Industry field in China.

## **2 Research Methodology**

### **2.1 Introduction**

The aim of this marketing research is to decide which category of LED product may take the lead following the situation of LED Industry and E-Business in China at the moment and in the near future.

Most of the E-Business owners tend to ignore the market research process and overconfidently rely on their prejudgments and previous experiences.

The manufacturing LED Industry in China takes over high percentage of entire LED output in the world, the domestic market is facing cut-throat competition at first. Either in domestic market or international market, Alibaba is the No.1 choice for businessman who is searching for products including LED from China. According to I-Research report that shows the importance of the relative e-business platforms in China.

This thesis is using two research methods to analyze how to market LED products on Alibaba and other e-business platforms. First of all, LED products should be treated the same as the traditional electronic products.

The insight and understanding gained enabled me to design a comprehensive questionnaire.

### **2.2 Literature review**

The online marketing literature used for the study has been mainly collected from a variety of books and articles. The process of E-business operation can be illustrated in an overall view. The process mainly includes site design, marketing skills, communication skills, online community perspective, delivery

management and after-sell services which by reading literatures to get intensive operation skills. From the literatures review to get deep understanding, help me to plan and monitor online marketing objective, online marketing strategies and tactics in my practical study.

### **2.3 Stages of market research process**

The role of market research is mainly to act as an aid to decision-maker which indicates the online company owner in this thesis. It helps to reduce uncertainties in the risk while making decisions. (Hollensen, 2011)

There are eight major stages of the market research process:

- Problem definition
- Identify information needs
- Choose unit of analysis
- Examine data availability
- Assess value of research
- Research design
- Analysing data
- Presenting the findings

The research process will lead to the decision phase. In brief, to identify what information is needed for research is important. To decide whether to go online, the assessment of market opportunities for the company's or shop's products is essential. Other information like: the commitment of the management (or support from the family in the LED industry and Alibaba cases, the management team of a online company or shop could be just one person) to

go on line; competitiveness of the company compared to local and similar competitors; traditional versus internet market opportunities; Trade barriers (not everything can be trade online); cultural distance to potential area of market; size of segments; behaviour of competition; transport and delivery costs; buyer behaviour; media and promotional channels, etc.

## **2.4 Methods of data collection**

Quantitative method is applied for my research. Interpretivism is the approach used mainly in this research. Moreover, this research consists of a quantitative research, which targets the high credits of online LED buyers. The research is carried out through questionnaire distributed to a sample of 117 LED products consumers—what kind of LED products and services they will choose online, how they evaluate them and make the final decision.

By using primary data collection method to complete the online questionnaires survey; from the main method to adopt statistics analysis, risks analysis and marketing strategy analysis. The primary source of data in this research was collected by self-completion questionnaires and interviews. The reason to choose questionnaire survey for the practical study of this thesis is its collected data would prove my thought and helps to figure out the conclusion in the right direction. The purpose of using questionnaires as the main research method is determined the direction of investment on promotion and district marketing selling on Alibaba and some other websites. The research is based on finding Chinese customer needs on LED products to satisfy them at the profit and long-term cooperation. The research was carried out over a period of 4 months (November 2012- February 2013).

## **3 LED Industry Situation**

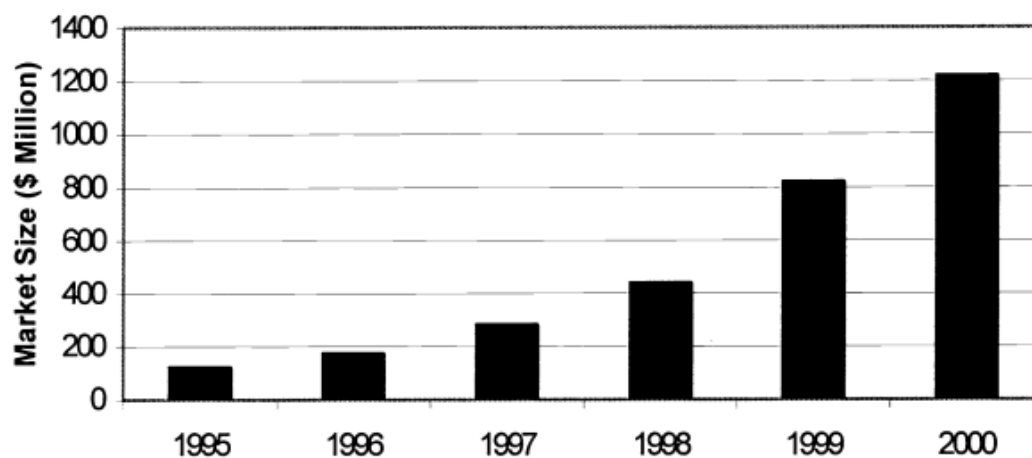
### 3.1 LED Industry Introduction

In the late 1960s, Light-emitting diodes (LEDs) was developed by Monsanto and Hewlett-Packard. It has been developing continuously till today. It was first applied as the numeric display in HP's first handheld calculator in the early 1970s. Now billions of LEDs are manufactured and sold in the world every year. The sale of visible LEDs was 2.9 billion dollars in 2000.

The LED technology has been applied by only indoor lights in limited colour ranges, with low luminous efficacy for many years. Till mid-1980s, AlGaAs material system was found and it increase luminous efficacy dramatically.

Three basic colours were found: Red, Green, Blue. The following breakthroughs of LED technology developed InGaAlP material system, provided high luminous efficacy.

Later InGaN LEDs, and more new breakthrough came out. LEDs could be brighter and brighter. The improving technology pushed the LED Industry became a sun-rising industry. The profit growth shown as Figure 1.



**Figure 1.** High-brightness LED market history. (*Proceedings of SPIE*. Robert, 2001)

### **3.2 LED Industry Situation**

The global LED Industry is led by Asian-Pacific, North America and Europe. The headers are Nichia, Toyoda Gosei in Japan, Cree, Lumileds in North America and Osram in Germany which monopolize the high-end LED market.

The global awareness of environmental protection and energy conservation is increasing and it has brought about the rise of the LED industry, in which the performance of white LEDs is the most outstanding. The Beijing Olympic Games pushed the sales of this industry for a higher level, demand for white LEDs used in consumer electronic products, new construction (city lighting campaigns implemented by the Chinese government), billboards, and traffic signals is substantially ascending. The mobile phone applications are dominating the market demand for LEDs is currently, which create approximately 33% of overall demand. Though the mobile phone market has been grown steady, a gradual decrease in output value is almost certain to occur as a result of heavy price competition. So leading manufacturers around the globe are actively pursuing automobile headlights as a new market for LEDs, which will ensure white LEDs take the market occupancy larger and larger. Meanwhile, the launch of products such as LED notebook computers and TVs, and the increasing popularity of LED for billboards, road lights, and buildings have extended the scope of LED applications from small- and medium-size products to lighting and large-size backlights. Hence, the future of LED applications will rely mainly on high-brightness lighting, automobile LEDs, and ordinary lights are going to be replaced. (D.I.S, 2007)

There comes the reason about the aim of this research, which is to expand operations on E-commerce for LED market in China.

### **3.3 E-business of LED Market in China**

E-commerce refers to companies in product design, production, sales and self-management, extensive use of modern information technology to realize business. To narrow it down as this research is focus on 'online transaction' for business on specific products, E-business should be defined.

In LED online market in China, as LEDs have become traditional electronic products, all kinds of LED applications are promoted on the internet in China, such as Alibaba, Dhgate, EXMCART, ect. On these electronic platforms, B2B, B2C and even C2C models are applied available. The detail situation is shown in 'Research Methodology' of this research by data analysis.

Aside the platforms, Chinese traditional commercial enterprises prefer establishing their own websites to sell their own LED products. The consults from their own websites makes the quiry easier for online purchase of raw materials and product sales. In this way, the promotion in e-business can be brand-oriented and service oriented.

E-business helps Chinese LED entrepreneurs run a better business by promoting individual publish, brand reputation or specific LED products information on either external electronic platforms or their internal websites.

## **4 Online Marketing for LED Market in China**

Online marketing now is the best way for companies to larger consumer base. With modern online tools, it is quite successful to join the team and start to implement online marketing as a part of the marketing strategy. Because more and more people have constant access to the internet, marketers are finding excellent results with many online marketing strategies. Explore strategies and



techniques can be used online, it will enhance and support the marketing objectives. It is essential to learn how to conduct banner promotions, generate targeted online traffic, positioning website content, and overall brand awareness. (Chasten, 2001)

#### **4.1 Online Marketing Introduction**

Online marketing is to market a product or service by using the E-Business methods. (China Market Research Group. 2007) It has become popular for a couple of reasons. One of the main reasons is that marketers can target a larger audience for a lower cost than in traditional media. Second, the medium online is more interactive and it can collect faster response than many other methods. (Lisa and Charles 2002)

With the continuous development of the technology and information systems, the features of the end products have increased dramatically, together with the easy accessibility and user friendly designs. The barriers of e-commerce have eased significantly with the wide use of the broadband, Wi-Fi, 3G and network, Smartphone's, PDAs and even devices like iPad2 have made the access to the internet and online stores much more easier than before. The development of technologies allows businesses to be in touch with their customers 24 hours a day regardless the customer's location.

#### **4.2 The effective investment of online marketing**

Investing in online marketing trends requires smart timing and consumer analysis. To maximize return on investment (ROI) and minimize the risks of a low or negative return is the main purpose for entrepreneurs to operate their business.

Marketing trends links with consumers' willing trends. An effective marketing depends on collecting and updating information to show what the customer focus most.

The main investments on the website according to Figure 1 are five different advertising forms around the website, like email marketing, search engine optimization- SEO (Google is commonly used by all over the world), Pay-per click ads (a kind of advertising which Google is widely used for business), online press releases (China Daily, Wall street, Financial Time and so on) and blog (this is being used frequently in B2C e-commerce method which focus on building online communication community).

The outside advertising promotional methods approach to all over the world. Buyers can get whatever information they want from the outside level, for example: Facebook, YouTube, MySpace, Twitter is all well-known online platforms. On the other hand, it is the most effective and efficient method to keep in touch with the visitors or the potential customers. To share their ideas and experiences, they will provide the useful feedback to the potential customers who consider their opinions before purchasing. It looks like the vivid advertising that help online seller to promote their online business. Again, this is a cheapest way to collect primary data from public.



**Figure 2.** Small business online marketing return on investment (news of Small Business Trends. 2002.)

### 4.3 The trends of online marketing

Small businesses have more risks than the big companies, so the small businesses need to think carefully how to invest in marketing and how to get the highest return on investment. The online marketing trends are focusing on the timing.

The first example is to design a user-friendly mobile website interface. It is a way to encourage the users who rely on mobile devices to check information online to visit your site. On the other hand, you can provide some promotional codes and mobile coupons which include your website logo or your brand name; it can increase the click rates and your brand awareness. Visitors can search the information quickly and find your website easily. (John, 2011)

The second trend is to build your online community. Use your time and your fund to establish a communication platform to let your customers to share their experiences. Let them leave positive comments after their purchasing, share their ideas and advises. Get close with your customers to improve your own website whatever from your products or your services, just make them more customer-friendly. (John, 2011)

The third trend is email marketing. Using the mobile applications people can check their emails time on time. The HTML function on phone is an important development and improvement that more effective for the seller to promote their businesses. They can send emails to their customers to keep long relationship and inform them the special offer is provided individually. (John, 2011)

#### **4.4 E-business environmental situation in China**

Nowadays China has about 420 million online users and they are becoming more and more innovative. The annually growth of E-Business in China is 105.4% since 2007. The sales amount is huge and there are no taxes for online shops. This policy has brought so many opportunities that many real estate store owners prefer setting up online shop or company than their previous real stores. Although the government decide to levy tax from 2013, the tax rate for online shops will be 5%, which is much more lower than the rate of 30% for real estate stores.

On the other hand, e-business risks could not be cancel out, the competition is much greater, and the speed for customers to access information about rival firms, prices and so on is much more quicker, therefore it is difficult to obtain customers loyalty, especially in electronic industry like LEDs.

The potential risks of delivery risks, exchange rate risks, politics, product quality, fraud, and exchange or refund time scale, after-sells service are still main disadvantages of e-business in China.

#### **4.5 Effective solutions for online marketing**

Customer expectations are rising from time to time. People expect an immediate response regard to their time saving, it also would impress people by the similarity of shopping on the street. Some of the customers are afraid to be sold a fraud product; they want to see the virtual products before their purchases.

To establish an attractive and visible website is a smart decision to ensure getting the most out of online marketing. The website can give a great first impression to the consumers. It is an extra 'push' to beat your competitors and win even better results.

For LED products, not only the customers are afraid to be cheated, but also the sellers. Because LED buyers are asking for free sample while they are inquiring a big amount of order. There is a risk that if the seller sent out the sample for free in order to get the buyer's deal, the buyer may has no reply and then disappear, even the product is qualified.

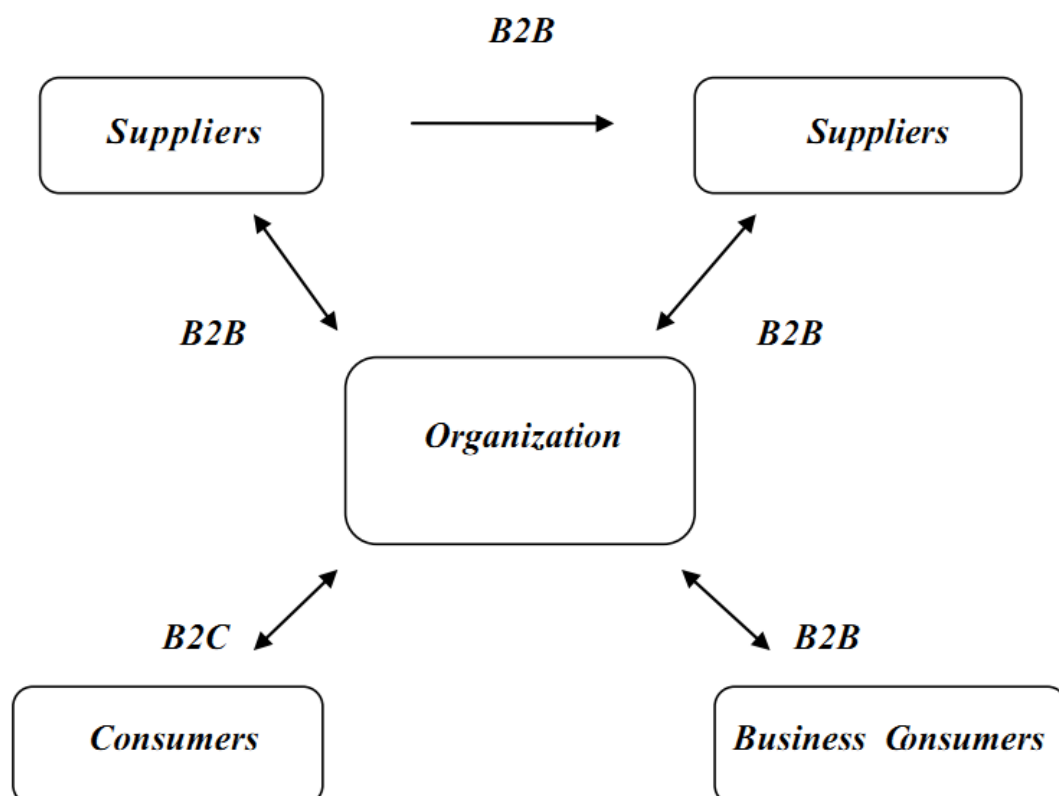
In Alibaba platform, customers can check the regardless of sellers' physical location, their comments, relative LED products choices and delivery track. All the business deals are supervised and served by the platform's client centre. Promotional campaigns and cross-selling opportunities can be customized in B2B or B2C model.

### **5 Strategy Plan**

Strategy planning is an important part of the development of the online marketing plan. Its approach involves establishing goals, assessing the operating environment, picking alternatives and then selecting the most wise one. (IBM global service, 2009)

In this thesis, the aim is focusing on how to make profits by using B2B and B2C e-Commerce methods to operate online company on Alibaba or other commercial electronic platforms.

There are two main common types of e-commerce being used. B2C (business to consumer) refers to businesses engaged in service direct to the end users. B2B refers to businesses to business served each other, it forms the supplement chain at most times. Figure 3 illustrates the relationship between B2B and B2C. This thesis is focus on Both of them.



**Figure 3.** The relationship between B2B & B2C (Harris, 2002, 106)

### **5.1 4P Strategy**

4P strategy is the marketing mix as a business tool used in marketing. 4Ps are: Price, Product, Promotion, and Place. A product is seen as an item that satisfies what a consumer needs or wants. By defining offerings as individual capabilities that are combined and focused to a specific industry, the result is a custom solution rather than leading a customer into the product. But for technology product such as LEDs, the new product may satisfy more if it suits more needs of customers'. The price is very important as it determines the company's profit and survival. The 'reference value' and the 'differential value' limits the sales amount when customers considers their purchasing power. Promotion comprises advertising, public relations and sales promotion. Place refers to providing the product at a place which is convenient for consumers to access. With the rise of Internet develops and logistics companies run better and better(Competition on cost and service in logistics company), Place is becoming less relevant. (Wikipedia, 2011)

There are plenty kinds of LEDs are sold on E-business or local projects. As LED products are determined by the advanced lighting technology, normally it should be producer-oriented. But this conception does not fit LED market in China at all. In many cases, the LED trades on E-business in China shows it squints towards consumer-oriented.

### **5.2 Products & Services**

Product is a tangible good or an intangible service. The intangible service means the effects after sales. The good products win better reputation, which brings company wider business networks and chances.

Product cycle time must be considered into account when setting price. Products from the production, growth, maturity, to decline, to increase again, the price of the product should also be reflected. The products being sold online are also referring to the basic products price rules of the economics. Due to the unified management, cycle time can reflect the price of products on time, and changing the price with a better cycle.

### **5.3 Price setting strategy**

Most of buyers are price-sensitive consumers, so setting price correctly is the crucial part of the marketing strategy.

To notice your potential customer's needs are change all the time. According to Customer Tracking system on Alibaba or other sites to keep a close eye on customers' needs; on the most of online company or shop site, website service system and price information will be published; it is convenient for the competitors to check the price of your products. In short, keep tracking on the price changing of your competitors, then adjust own competition strategy; keep your price advantages of your own products.

Bundling sell strategy has been used in many smart enterprises. Some of the failed case is tend to focus on the lowest price only and ignore the effective means of customer's sensitive degree. Customer will satisfied completely through clever bundle sale, or other forms of means, make customer feel more satisfied with the product price when they purchase.

The price of the product needs to determine by the demands of the products. When some products have special demand, no more consider other competitors, as long as to set your own satisfied price. If demand has basically been fixed, it should be have a very special and detailed quoted price. It is a way to attract customers with price advantage.



#### **5.4 Promotion on the values**

Value proposition is a description of the customer problem, the solution that addresses the problem, and the value of this solution from the customer's perspective.(Hollensen, 2011) In order to achieve customer success, a company must deliver a particular customer value proposition (CVP) to a definable market in order to exist. Competition is all about value: capturing it and creating it.

For every option that you demonstrate to the potential customer, provide a value proposition. A CVP is a business statement that shows why a customer should buy a product or use a service. It is specifically targeted towards potential customers. It is to convince customers that one particular product or service will add more value or better solve a problem than others in its competitive set. (Hollensen, 2011)

A good CVP will provide sensible reasons why a customer should buy a product or a service from your online company or shop but not your competitors. Gaining a customer's attention and approval will help in build sales faster and more profitable, as well as work to increase market share. Understanding customer needs is the key as it helps promote the product. A product with a successful CVP is directly linked to a products actual and sustained performance versus competition (Hollensen, 2011). The two main attributes that allow consumers to differentiate among products are price and quality.

Brand of product has a big attraction to customer. If the product has good brand image, so the price of the product will produce great brand value-added effect. In the meanwhile, brand value should concern customers feeling to the products. It is a kind of cheap products or high-quality goods. If your product

itself has great brand, so your website can expand to brand effect and outspread, network combined with traditional sales promotion, produce integrated effect.

The above values determine the effects and efficiency of advertising, public relations, personal selling and sales promotion.

### **5.5 Place distribution**

The Place element of the marketing place is about where the product is made, where it is stored and how it is transported to the customer and to ensure that the product gets to the right place at the right time with lowest possibility of damage or loss. The ideal place will be (Learnmarketing.net):

- Convenient for the customer and the business
- Accessible for the customer if it is the place where the product is sold
- Low cost or free for the customer if it is the place where the product is sold
- Reasonable cost to the business

Although now the express companies and internet makes place element less important, the companies in E-business must consider logistics cost and company's reputation affecting area. Only if the fundament is solid and all the elements of supply chain based on the place run well, the products distribution can be healthy.

## **6 Brands-As a communication tool**

### **6.1 Branding trends for the online company**

LED suppliers from China have set their own online company with complete company profile on Alibaba, CNLEDW.com, 21ledonline.com or some other LED commercial platforms. The focus of brand trust is shifting from products to people and processes. To have a great product quality cannot ensure success, make sure you don't be let down by the customer service. As many product characteristics are easy to copy. Thousands of the online companies will steal or download your product pictures to imitate and copy. It is quite essential that the brand image will be an added value to your business. The brand name is the mainstream of your online company.

Customers are increasingly expecting a complete 'package' and not just a 'one-off' product. (Charles, 2002, 143). For example, someone deciding to buy LED tube lights, it is not just the lights themselves but the service elements that come with it that form a critical part of the purchase decision, such as regular servicing, normally one-year guarantee for repairing, some high quality normally with high price goes for two-year warranty, free fittings of machine or discount for a bunch of quantity, etc. The price of a brand is not what customers pay for it. From the customer's perspective, the price of the brand includes search costs and time-saving through familiarity with people, company and processes. This means that customers tend to seek a longer-term relationship rather than a one-off transaction in order to maximum the buying experience, especially for B2B business.

### **6.2 Online branding strategies**

According to Lou Gerstner, chief executive of IBM, 'Branding in a network world will dominate business thinking for a decade or more'. (Willcocks, 2000,

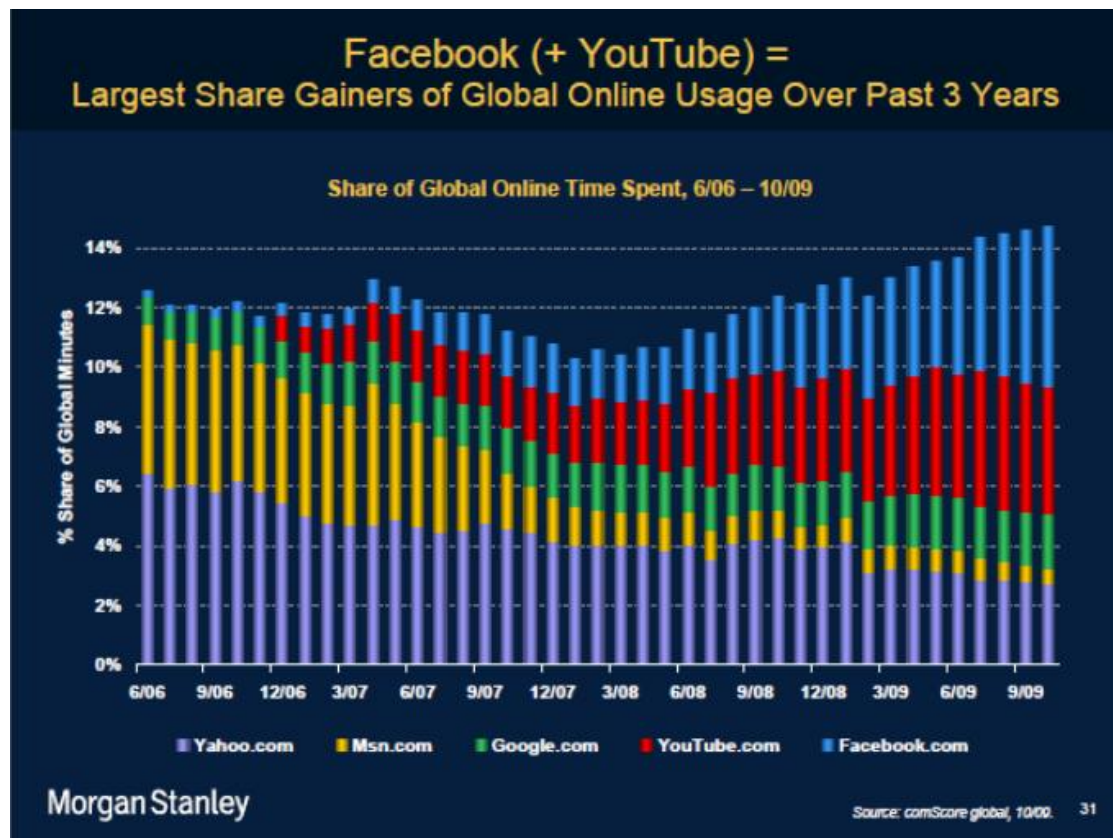
28). Social media will be widely using for the online branding strategy. For example, Hotmail account holders send an advertising message that is attached to the bottom of every email. Email newsletters offer an opportunity to raise brand awareness and generate goodwill through free content, and many contain the request to 'forward to a friend'.

According to Figure 4, the top two social media services today are Facebook and YouTube; they are the leading trends for the online dealers to increase their brand awareness. For example, if the online company website can create a video which is talking about the road of establishing their brand name; and describe what kind of products they are selling and services they are providing at the moment. And then upload the video to the public, both on the Facebook or YouTube. It is a more creative way to let more online user to get familiar with the brand image of your online company or shop. Maybe they will be your loyalty customer in one day, the potential opportunities are around the Internet, find them and catch them, and then you will enlarge your brand awareness on the Internet, to win the online marketing share by your well-known online company.

If the video which you made is working well that will be forward to other local website by the local online users. People will share the video that to inform their business partners, clients, friends or relatives that looks like a free vital advertising for your online company. Every day will approach the world widely potential customers who are looking for your brand name to click your website.

Online company branding is an important factor in building up reputation, web traffic and ultimately, revenues online. Reputation is one aspect of branding that is often highlighted as an intangible asset: very difficult to create, imitate or substitute, but extremely important as a source of competitive advantage. Brand-building features such as community groups provided on the Web site allow customers to interact and share information with others, which helps in

building up a degree of trust that can partly compensate for the absence of an established retail presence and then result in increased revenues. This method is frequently applied in business groups, either. (Charles, 2002, 145)



**Figure 4.** Share of Global Online Time Spent from 6/06 –10/09 (Computer land Australia. 2010 )

## 7 Customer Relationship

How to establish the customer relationship is a skilled and sustainable way to develop your online business. The key to successful customer relationship marketing is quality service. As Bolton (1998) claims that in ongoing service

relationships, customers subjectively assess the future value of the relationship relative to the expected benefits, costs of continuing and costs of discontinuing the relationship. From this viewpoint, a significant part of the value assessment in a retention decision rests on service performance.

By focusing on the provision of a quality service to a customer, a company is increasing the chance that the customer will return. If that customer is subsequently treated in an individual way in accordance with what the company has learned about his or her preferences, then the customer starts to move further up the ladder. If customers are so pleased with the attention and service received that they start recommending the company to others, and then marketing costs began to fall, as word- of –mouth recommendations are completely free. (Harris. 2002. 161)

From the customer's perspective, developing a long-term relationship with a company can also help to reduce the perceived risk associated with the purchase of goods or services. From the company's viewpoint, a loyal customer will provide a number of benefits to their business. For example: higher returns will accrue from repeat sales over time. Increasing levels of competition means that service quality may be the only differentiating factor between the similar companies. On the other hand, the loyalty customer will recommend the company to others by word of mouth. Then the promotional costs are reduced for the required new business.

### **7.1 Online relationship marketing overview**

Peppers and Rogers (2007, 173) highlight how effective use of the Internet can greatly facilitate the issues of relationship marketing. First is developing the learning relationship. By this, Peppers and Rogers (2007, 173) mean a continuous two-way dialogue which allows the offering to be adapted to meet

special needs. It can be achieved by means of online feedback forms, analysis of queries to customer service facilities, or through use of increasingly high-technology software that analyses customer site-searching behaviour before purchase. Company also can offer an incentive for the customer to engage in the dialogue. It must be easy and convenient for the customer to engage with the company. The best incentive is good, free, up to date content.

The second is acknowledging the privacy of the customer and the other demands upon their time. This means communication only with customers who have requested information, and making it easy for customers to “opt out” if they wish. It also means guaranteeing not to pass on customer details to other companies in the form of online mailing lists.

## **7.2 E-mail permission marketing campaigns**

According to Godin (2009, 175), permission marketing is marketing in which the customers consent to having an online relationship with a company. They are able to clear preferences for the type, frequency and context of those communications; meanwhile they have a high degree of control over the relationship.

Godin (2009, 175) noted that by focusing only on individuals who have indicated an interest in a product, trust can be built, brand awareness can be improved and long-term relationship can be developed.

Email is an ideal medium for putting such principles into action because it is fast and efficient, simple to track; evaluate and make changes if necessary and also a cost-effective method of rising brand awareness. The basic principles of managing an email marketing campaign need to get customer’s email address and permission.

Company need to develop content and personalization of the message to send to their target customers. Respond to customer relies on time, maintain and clean email lists frequently, and then track and measure campaign performance for their customers.

### **7.3 Building online communities**

The new business model is developing online which are based on the B2B and B2C online business groups and communities. These groups and communities overcome the lack of human contact online and hence can meet consumers' social activity needs. Consequently, online communities can now represent a significant commercial opportunity.

There are a number of different types of B2C interaction through online communities emerging. Research by Evans et al. (2001, 150) that explored consumer attitudes towards online communities concluded that successful commercial communities must offer:

- Quality content
- “add value” interactions
- Efficient use of participants' time
- Simple site design that can be navigated quickly
- Integrated contact channels (meaning that the site cannot stand alone)
- Minimal requirements for registering personal details

The information posted on relevant community sites can provide companies with value research data. Most online groups and communities are currently at relatively early evolutionary stage and have yet to be subject to serious study. For example: Alibaba Website provides the Alibaba community for online user



to share their information and feedbacks. It is the biggest online community of B2B & B2C business model in China.

#### **7.4 The mobile Internet**

The business applications of SMS are growing and the service has particular appeal in the B2C sector. According to research by the YanKee Group (2010) announced that the Global SMS marketing is expected to be worth 66 billion pounds by 2012. The success of SMS relative to Wi-Fi, 3G wireless indicates that customers currently regard one-to-one communication services as more important than the ability to download information from Web-based content providers. So in order to make money, mobile operators will need to focus on increasing revenues from mobile traffic by enhancing communications services such as email rather than relying on charging for content provision or mobile commerce.

In summary, the rate of growth of the mobile Internet has been far quicker than that of earlier technologies. Current opportunities for marketers presented by recent mobile developments centre upon:

- Interacting with customers through personalized content provision and associated advertising sending by SMS.
- Online shopping and the processing of transactions can be operated by mobile phone; mobile phone as an E-purse being used widely.
- Internal communications such as distribution of information to a remote workforce.

Internal communications means that remote workers can use wireless devices to access office systems and marketing information held on the corporate intranet. Such services are useful for logistics companies needing to keep

track of their drivers' location and also to send SMS message with reminders and alerts, for example of schedule change or traffic problems. Online company and shop workers operating in the field can update customer records or request specific information automatically.

### **7.5 Interactive digital television**

Interactive digital television (iDTV) looks similar to PC-based Internet but is delivered through a television set and can be operated using a remote control. Advertising through this mechanism can be interactive, as viewers can respond immediately to request further information or to sign up for a promotion. Digital television has helped increase the fragmentation of viewers. This means that advertising can be easily targeted to tighter niche audiences. For example through exposure on sports, cooking or health channels. Advertisers can develop their own television channels in order to incorporate content provision and communicate with their customers. (Charles. 2010. 202)

Interactive digital television also can to use in the e-commerce way that will be a mainstream in the future. Because PCs have been traditionally viewed ad information tools and is a logical choice for accessing the Internet and using online consumer services. The television, however, is viewed as an entertainment tool, and the biggest driver for digital adoption so far has been improved picture quality and a greater choice of channels, either little attention being paid by consumers to the advantages of interactive services.

Smith and Chaffey (2008) note the following advantages of iDTV to marketers:

- Highly targetable
- Moving buyers through the complete buying process
- Audience engagement through interaction

- Brand-building and positioning reinforcement
- Brand-building through community-building
- Customer service- reduction of bottlenecks
- Security- less risk associated with TV than Web sites
- Cost saving on promotional fees

Make iDTV into online company or shop using into practise should including four key steps. The first step is using your own website of online shop linked to iDTV. Second is design for the lowest common denominator to maximize the number of people who can make use of your service. The third step is to grow your offer over time to include purchasing or personalization. The last one is the most important one that to build a team for the future to ensure that the necessary skills are available. (Brennan. 2008. 62)

## **7.6 Summary of the viewpoint**

Keep in touch with your customer is the vital way to communicate with them. The Internet is just one of a wide range of communication channels. The process of integrating the communication tools is vital. People play a vital part in the marketing communication process, especially for the e-business. Customers want human contact and those businesses that can provide a real human to interact with a customer quickly—whether online, via email, over the telephone or even face to face—are more successful than some of the faceless, e-only operations that have been getting a reputation for poor service.

The people aspect is also important for e-business in tailoring offers to the individual customer. For example, Alibaba platform provide the convenience of easy ordering. Customers can personally tested the service and found it fast

and reliable. A particular is the Chinese courier service; the customers can track the delivery status of their order online. After the customers received the products, they will comment on the products and the services which the online seller provided. It is an effective way that other customer can consider the comments as reference to make decision, looks like the vivid advertisement from words of the previous customers.

In order to researching the customers' need, satisfying those wants with appropriate products and services, distributed conveniently, price to reflect value, and communicating with customers about the benefits remains central to marketing planning. On the other hand, advertisements will grow bigger by spreading them to the blog or on the online community. The majority of the online company owners will use this method to enlarge their market share and increase their brand awareness as well. The rich-media ads will increase in prominence, online sellers can use animation, sound and interactivity flash ads to gain the attention from the more and more customers. Best of all, it will be attract the visitors eyeballs by their creative minds.

Permission-base email marketing will become more common. The cost per acquisition is lower, turnaround time is faster, and finally the result can be accurately tracked. However, the spam mail is increasing simultaneously. As the growing information technology, more aggressive spam filters will be developed. Online shopper can use email to remind your previous customers with the new collection or new promotion which is coming soon. (Harris, 2002, 237)

Form these examples, you can find that how important it is to keep a good relationship with your customers, they will bring visible and invisible benefits to your business.

## **8 Implementing Process**

This part of the thesis is to ask some questions to yourself before you setting up your own online LED company or shop on the website. These questions will help you to think your business in more details.

To make the traders get the sense of your LED product, you must attract their attention to your site first. Promotion strategy is certainly standing in front to achieve their attention. When people are online, they expect to get everything quickly. Then we must try the best to make offers and use incentives, and sell the benefits strongly, repeatedly and extensively. Updates information often to keep them having fresh eyes and be more focus on your site.(Grayton, 2007)

### **8.1 Organize website information**

The structure of information organization, pricing strategy, online payment, product delivery problems is a main direction to attract more attention for buyers. This kind of shopping website can keep customer participate in purchase, more convenient, more detailed, more safety. To achieve a more successful website, make the level of products classification in a scientific and orderly way, as well as facilitate buyers query. The web pages must have the guidance and more special that to attract large numbers of buyers. There are about six parts of building website strategies can be applied.

#### **8.1.1 Web Design**

Before confirming web design style, the first step is to take some website template as reference, and get several offers from website design company's

opinion, the more important is to get your target customers' feedback about your shopping website, think what exactly kind of style will be more attractive. Consider how to design website will be more effective to attract customers. Through the above reference, the website eventually to finish by yourself, you will need to decide on the interaction between the degrees of relationship with customers. In order to constructing a distinctive online company site.

### 8.1.2 Classification System—Catalogue

All the products can use corresponding text and pictures to illustrate. Classified catalogue can use the root directory and with sub directory form to manage products, customers can read its simple description and price and other information by clicking the product's name.

### 8.1.3 Shopping Cart

Shopping Cart could help customers through the information of the product which they choose in the store that can help them to list all the products together, and provide the total numbers of products and overall prices, it is more convenient for customers to manage and pay.

### 8.1.4 Card payment and Security

Online company involve in a lot of safety and security issues. For example: password, credit card number and personal information, etc. How to deal with the information in a sufficient way is very necessary. Alibaba Website can provide safety authentication. By the process of certificating, customers information are being protected.

### 8.1.5 Customer Tracking

Through accessing conditions to the website and submitting forms of information from your customers, it can get a lot clear situation report from your customers. Who visited your website? What web pages they visited? What the most important is what LED products are they interested in? What products are they purchased? All the information has a magnificent influence on the further sales. It would be very useful for manufacturing and sales direction for LED manufacturers and traders.

### 8.1.6 Product promotion

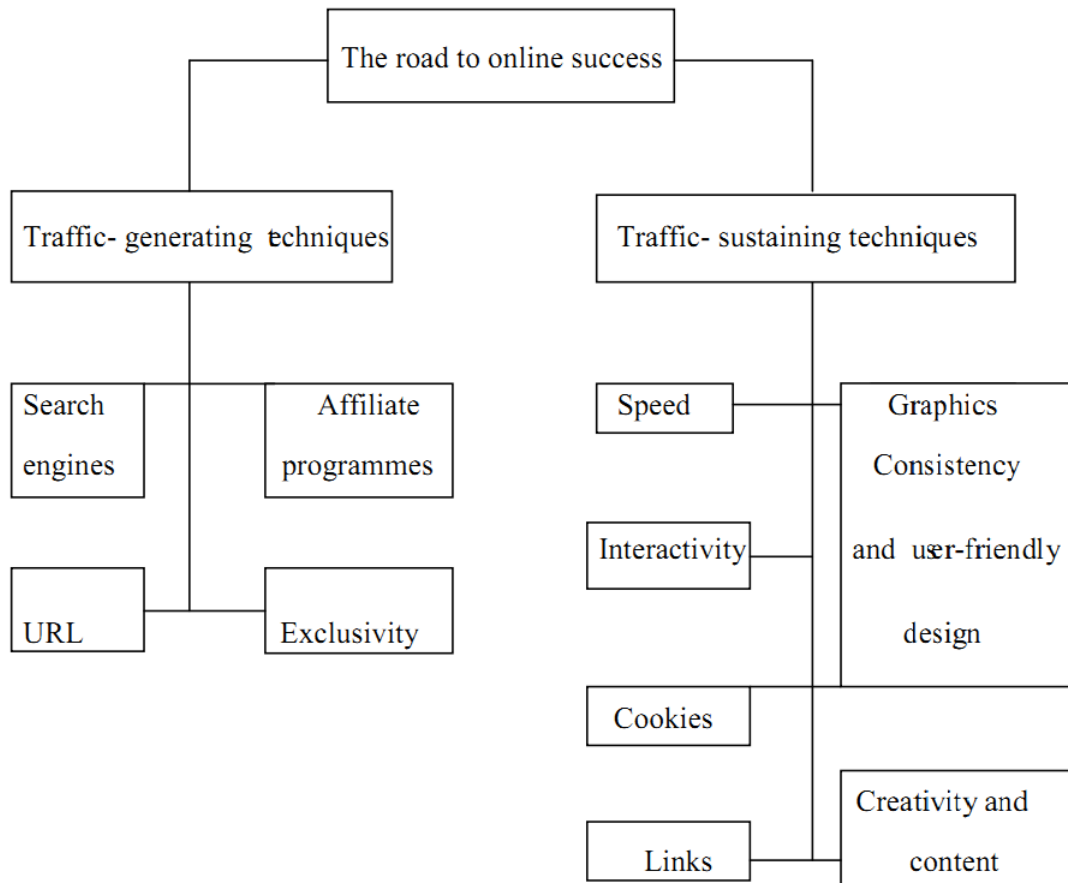
Through online company site to manage and marketing products, make use of a web page arrangement and the design skill, make customer easily understand product information. For some complex products can adopt shortest arrangement, aimed at the different promotion strategy by different customer service mode. On the other hand, consumers are more concentrated on the selling goods, especially the price.

## **8.2 Online techniques design**

The road to online success depends on two techniques: Traffic-generating techniques and Traffic-sustaining techniques. These two techniques have some important steps to achieve the successful online company. The main point is using the internet effectively.

Figure 5 is the steps on the road to online success. Each part of the diagram is discussed below. The steps on the road to online success is included in two main parts, the Traffic- generating techniques and Traffic-sustaining

techniques which provide the evidences that why the two elements can made your online company or shop more attractive and efficiency. According to Beythe (2006) that he offers the more details that how the two techniques work.



**Figure 5.** Steps of the road to online success (Beythe, J. 2006. 293)

### 8.2.1 Traffic-generating techniques

Several techniques are available for an online company or shop to generate traffic to the homepage. Online techniques are used to convert casual surfers into visitors to the website, or to encourage those who are seeking something specific to visit the website. Submitting the online company's or shop's URL to various search engines is considered by sellers as being the single most



important step an online shop can take in order to promote its homepage. Customers will be no patient to search all the sites; they will tend to visit first few sites which appear on the search pages. So, it is therefore best to focus on a small number of search engines since this will produce the best result in the end.

Affiliate programmes were launched by Amazon.com in 1996: Amazon pays its website partners a commission for every customer they send to Amazon's page. Affiliate programmes are effective but are relatively little-known and are underused. (Beythe, 2006, 293). However, in my point of view, the way to make affiliate programme more effective is that online company or shop owner pays only for results and not for exposure, hence both partners are likely to be interested in helping each other to get the most out of the deal. On the other hand, having a URL which is easy to remember, shorten, and make it related to the online company or shop, that helps to generate traffic to a homepage.

The final technique for generating traffic is to put something exclusive on the homepage. An exclusive offer is something customers will not be able to find anywhere else. For example, have online ordering discount, up-to-the-minute pricing, product specials or even downloadable screensavers with the logo of the online company or shop. (Beythe, 2006, 294)

### 8.2.2 Traffic-sustaining techniques

Sustaining traffic is about ensuring that customers return to the site and spend longer there than they do on other sites. A homepage should provide users with an experience which cannot easily be replicated by traditional media. On the top of this it should provide users with added value so that they have a reason to return in the future.

The main priority for any Internet user is speed, the online company or shop cannot be using too much graphics until availability of high-speed Internet access becomes widespread. Sometimes pictures are necessary in order for the user to see what he or she is actually buying, and this can be a problem if the picture is too small. So the suggestion is that the online company should supply the visitor with a smaller version of the picture, called MeiTuXiuXiu, which can be downloaded quickly and can be enlarged and the software is being used widely in Alibaba Platform. In a short, the more interesting and lively the graphics are, the more likely it is that the user will return to the site or recommend it to their clients, colleagues or friends.

Homepages can also be made interactive so visitors can communicate with the staff of the online company or shop. Alibaba Platform has its own communication tools which called "AliWangWang" that is more directly and convenient for buyers and sellers to communicate duly. In order to make the user to feel a sense of interactivity, company feedback must be instant because, it is willing to communicate with customers via e-mail if the staffs of the online shop don't have time or the capacity to respond at that moment.

Consistency and user-friendly design are other basic attributes of a successful website. It provides a consistent style for headlines, text, navigation aids, and headers and footers. A site map is also helpful, especially for first-time users to a site. A site map is like a table of contents, and if it is designed like an organisational chart it will give a good overview. A search index can also provide help for the user. (Beythe, J. 2006. 295)

A cookie is information that a website saves on a user's computer in order for the website to be able to recognise the user in the future. This makes it possible for online companies or shops to personalise their site for each user which means the user can easily find what interests him or her the most and which LED product he or he wants mostly and potentially. Besides consistency,

a homepage also needs to be creative or else it is going to be boring to look at. No matter how attractive a homepage looks, it is the actual information provided on the site which is the key to success. Content is the key word in the online world. Dholakia and Gego found that the number of links to a homepage is positively correlated with hit rates. In practice, many online shops enter into agreements with other organizations in the same business to set up mutual hyperlinks with other's sites. The best way of an online company is making target tags in the HTML which will open link destinations in a new window to keep your own homepage in the background. Then your customer will not force to leave your own homepage. (Beythe, 2006, 296)

### **8.3 After-sale service**

Internet trading can be instrumental in developing customer loyalty. Customers will tend to return online much more if the after-delivery satisfaction is high: this is a more important factor than after-checkout satisfaction.

Follow-up is checking with the customer after delivery to ensure that he or she is happy with the product and your online company or shop. This aspect is often neglected by salespeople. Perhaps because of fears that the customer may be dissatisfied with the product or service received.

But, if you get their feedback about your products and services that can improve yourselves to support more satisfied shopping and inquiry environment to your customers that becoming your loyalty customers. It is an important way to help you get more potential customers who maybe recommended by your previous customers and establishes a good image of your online shop. Service quality is improved by using the Internet as an evaluation tool. There are five dimensions of online service quality can be evaluated followed by Beythe (2006):

- Access. The site needs to be easily accessible and quick to download.
- Website interface. The site itself needs to be engaging and effective.
- Trust. The website should give an impression of solid reliability.
- Attention. The site needs to be engaging and interesting to use.
- Credibility. The site needs to be truthful and authoritative.

## **9 Survey Design & Analysis**

### **9.1 Steps of survey design**

#### **9.1.1 Establishing goal**

The first step is to decide what goals need to be achieved. The more specific the goal is, the easier is the progress of figuring result. The purpose of this research is to determine the reason to set up online company in a commercial electronic platforms and what kind of LED products are rightly perceived to have a good sale in a long run.

#### **9.1.2 Sampling process and sample size**

There are 2 kinds of sampling, which are probability and non-probability ones, are the two major categories in sampling procedures. (Hollensten, 2011, 187).

- Probability sampling. It is possible to specify in advance the chance that each element in the population will have of being included in a

sample, although there is not necessarily an equal probability for each element;

- Non-probability sampling. Here it is not possible to determine the above-mentioned probability or to estimate the sampling error. It is rely on the personal judgement of the researcher.

This research is adopting the probability sampling approaches. The first step was to correctly identify the population. If the right kinds of people are not selected, then it will be difficult to successfully meet the goals. In this study the population of the targeted online LED customers are one hundred and seventeen.

### 9.1.3 Questionnaire

In this questionnaire all the results can be traced back to the phase of the project. Concise goals are well defined, they will be proved in the analysis. And the statistical analysis would be formulated in the following conclusion. When to specify the detail information we have to get, we can ask long ones sometimes, especially my interviewees are all experts in LED trade.

Respondents were assured of the strict confidentiality of their responses. To increase the response rate and encourage objective responses, simple and direct language was used to ascertain easy understanding. The workings of the questions were simple and direct to the point to encourage the respondents to fill the questionnaire. A well self-explanation cover letter is highly needed before asking question. It will build a reliable and official image to the respondents. The cover letter for this thesis is translated in English and it can be founded in Appendix 2.

## 9.2 Data analysis of the questionnaire

### 9.2.1 Administration of the questionnaire

There are 17 questions in this survey. Ahead with the demographic questions in the questionnaire, it can help to know what kinds of business people they are in LED field, why they choose online trade, what kind of LED product they are focus on. The survey can be found in Appendix 3.

The survey was sent to my friends who are currently working in LED business fields, they and their friends who concerned with LED industry were helping me to finish it. 90 sheets from 117 people came back within 1 month, the respond rate was 77%. I will help them as I can with a grateful heart if possible in the future.

The collected data is analyzed in three parts. Demographic information is the question 1-5, it shows the basic information. Questions 6-14 are the internal information which the respondents provided as the main leading guide of the research, it illustrates their purchase habit and attitude of their previous LED purchasing experience. The last three Questions 15-17 are the external information from analysis their expectation to the development of the LED trading online in the future.

### 9.2.2 Demographic Information

Table 1 presents the demographic data of the respondents. Fortunately, 90 out of 117 questionnaires were recollected.

<b>Gender</b>	<b>Percentage (%)</b>
Male	70
Female	30

<b>Age</b>	<b>Percentage (%)</b>
19 & younger	0
20-29	48.9
30-39	42.2
40-49	6.7
50-59	2.2
60 & older	0
<b>Monthly income (1 Euro= 8 RMB)</b>	<b>Percentage (%)</b>
1000-5000 RMB	32.2
5000-8000 RMB	34.4
8000-15000 RMB	20
15000+ RMB	13.3
<b>The yearly sales amount of company</b>	<b>Percentage (%)</b>
3- million RMB	10
3-10 million RMB	17.8
10-50 million RMB	61.1
50+ million RMB	11.1

How often do you buy/sell online	Percentage (%)
Never	1.1
12- times a year	8.9
10- times a month	36.7
10+ times a month	21.1
Everyday	30

**Table 1:** Demographic data of LED traders

70% of my respondents were male, 30% were female, this tells the experts in LEDs are more male biased. Electronics Industry is more attractive for males in China.

While analyzing the age of the online buyer, we can see that the highest percentage rate of age from 20 to 29. In China, most of the young people prefer to shop online. So do the young workers in LED companies. But why 30-39 years old respondents shopping online in a high rate? Question 13 shows most of them has work needs, which push them to know the e-business.

Regarding the monthly income of the respondents, most of them are at middle or lower income level according to the monthly income under 8000 RMB (equal to 640 Euro) in China. The majority of them are buying or selling online more than 10 times a month or even every day. Most of this group are seller or purchaser working for the company, the frequency of their surfing online shows that shopping LEDs online brings companies' profits. The E-commerce become one of the main tools for LED products trade.



The sales amount of company yearly tells us the rate of LED companies' strength from my respondents. The bigger sales amount it has, the better buying power it could have. In most strong LED companies, sellers are especially hired to search buyers both from domestic and foreign websites. This comes the reason why they act online so frequently.

Based on the basic information of the respondents shown in Table 1 I can make a brief conclusion. There are 91% online buyers fall in the group of 20-39. The higher level of income are mostly from 30-59 age area, since they are more experienced and gather more treasure to start own business. Table 1 shows that there are 90% of the respondents are alive online every often in a month. It proves that now the E-Business cannot be apart from LED trade at all.

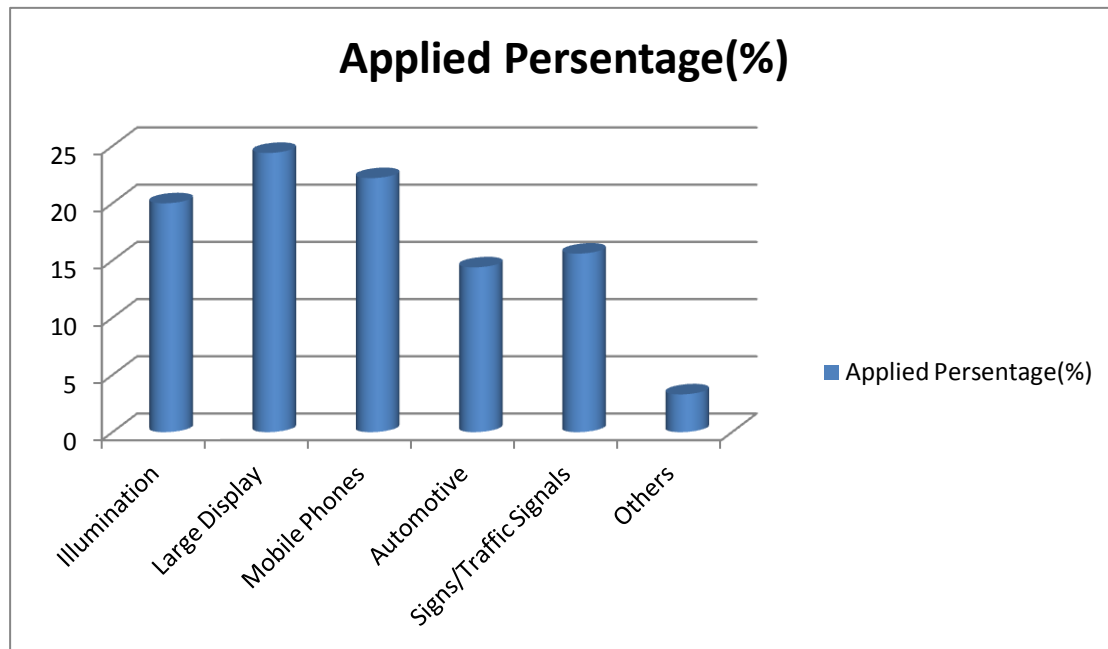
### 9.2.3 Internal Information

Questions 6-14 we can find out the respondents' mind on LED industry based on their own experience.

Q6 tells this group of people are affected by their work obviously. 56.7% of them get to know LED from the internet when they began to work in this industry. Only 40% of them already knew LED in living and outside work. It proves the main trade activity of LED is on the internet. Less were still in lighting or electronics market, except the final LED applied products.

Q7 breaks the normal concept of people's attention on promotion. Result shows 46.7% of them care about recommendation most. Even 28.9% votes consultation by seller which is more than 24.4% votes preference. It proves the specific LED product has variety of choices and the quality of it has low credit for trust in China. This habit is actually against their willing to trade online.

Q8 tells their concerning LED products currently or previously. Figure 6 shows the heat distribution of LED product in different classes.



**Figure 6.** LED product's application, result of Q8 in the survey.

In my respondents' result, we can see illumination, large display and mobile phones applications are more than the rest clearly in Figure 6. Actually in Figure 9 which is in Appendix 1 shows that mobile phones and traffic signals were applying LED lighting mostly years ago. But now as technology of LED develops and the advantage of using LED is more popular, illumination and large display application field have been gaining large demands year by year. This shows the potential profit target in front of our eyes.

In Q9, respondents represent their view by the angle of their own products. It cannot be very accurate to judge how long LEDs can be used really. For example, the street LED lights' quality is often highly required. Theoretically its age should be longer. But the street lights are also used more often, so they are hardly defined.

Q10, energy saving earns the votes most. My respondents are all business people, one of reasons for their vote is energy saving is the most attractive element which brings them business orders. In the commercial eyes of view

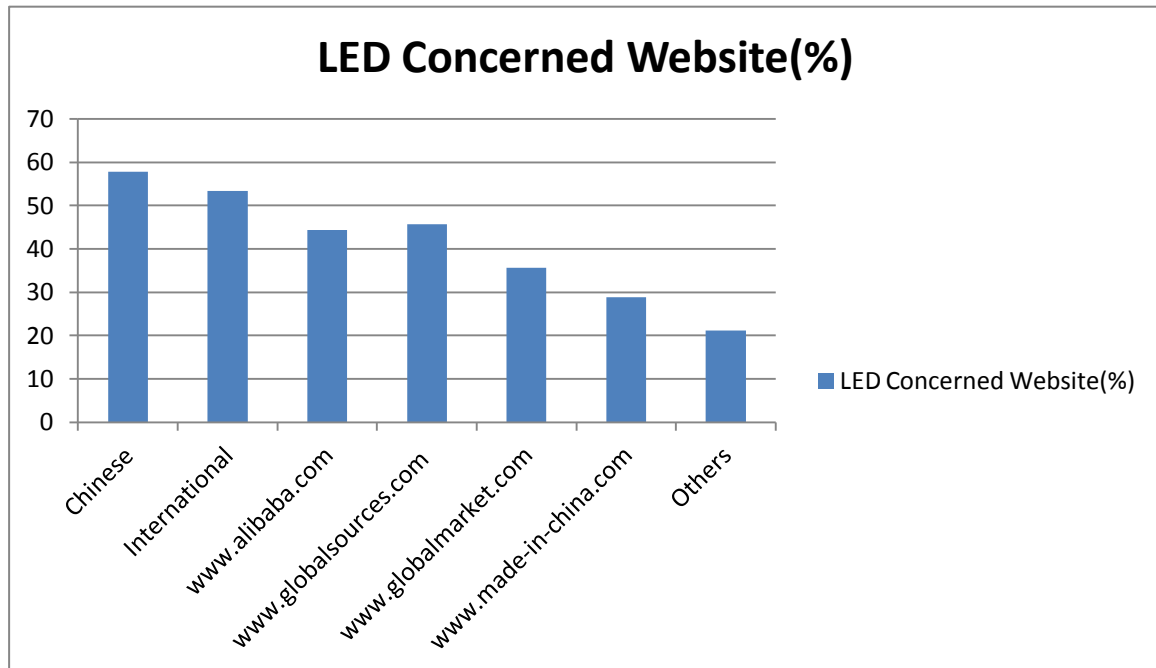
from them, valid age may be the contrary one. But all these advantages of LED would make our life better, and the voters are the beneficiary as well.

Q11, this result exposes the commercial heart in most businessmen in China. The lower valid age forces buyers buy more, factory produce more, thus businessmen can get benefit in the middle. They know the LED is made to better their life, but they prefer the profit in a short term. This question reflects the narrow sight of sellers, and the buyers' poor understanding for LEDs.

Q12, the quality and valid age has not high rate of votes. This answer from businessmen respondents proves that the business concept in China is to let the goods flow as fast as it could, thus to earn more from it. It harms the environment, and more resources lost, this is opposite to what LED is used for. Service, price and brand is averagely important as a normal business concept.

Q13 is similar to Q6, the idea is to understand their habit of buying and selling. Besides the common work needs, advertisement or promotion online catches their eyes. In China, the advertisement is usually not trustable. But it got vote proves it works, even among the business group, not end buyer. It takes an important position in online marketing.

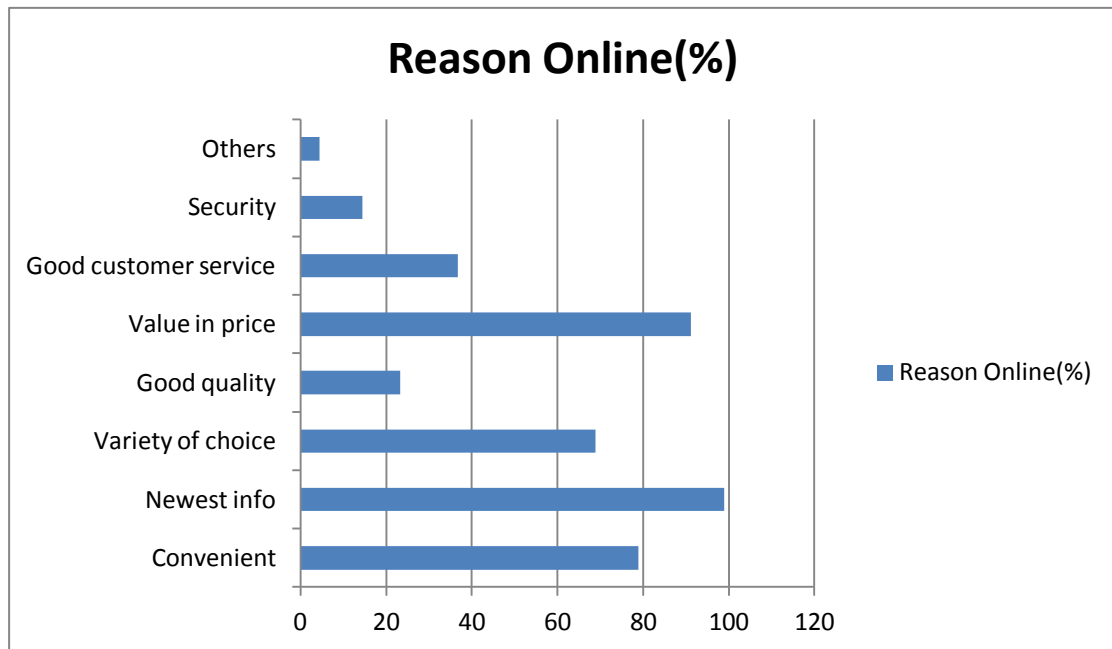
In Q14, Figure 7, the result of multiple choices shows how the experts surf different websites to get LED industrial information.



**Figure 7.** LED Concerned Website

The Chinese and International websites includes comprehensive websites. The surfing rate of Alibaba & Globalsources are comparatively higher than the rest as a single website in China. This tells the online shop and temporary info ads in Alibaba or Globalsources are the main way of trading which the experts cannot ignore. Except Globalmarket and made-in-china.com, there are many other LED industrial information websites such as [www.gg-led.com](http://www.gg-led.com), [www.cnledw.com](http://www.cnledw.com), [www.ledwn.com](http://www.ledwn.com) in domestic of China. The E-Business for LED in China is in the most active period ever.

#### 9.2.4 External Information



**Figure 8.** Reason Online

Figure 8 illustrates newest information is the top reason the respondents surf online for LED products, following the value in price, convenience and variety of choices. The quality, customer service and security lay behind. This result from Q15 directly reflects the answers from Q16 and Q17.

The top four advantages are the traditional internet benefit for users, the later three elements are also the common disadvantages exists at the same time. But how to overcome these disadvantages? The Chinese entrepreneur Mayun, head of Alibaba, learned from 'Paypal' and set up 'Alipay'. This imitation has brought much more benefits in a way. Although many small deals become more safe, 'Alipay' still cannot solve the problem in international trade. Many frauds still happen, and the buyers can hardly get compensation. Sometimes the law cannot be executed, or it takes too long time which makes people feel it does not worth. There are only two ways for the payment, which are letter of credit and telegraphic transfer. These respondents who are experts in LED international trade have a lot of experience. They have to think over and then

choose the right way. There are many unexpected situations come out during trading, such as the goods cannot catch up the delivery date, the L/C(Letter of Credit) in law will force them to pay the punishment; or if any new customer comes and pay T/T(Telegraphic transfer) by 30%, but when they send out the goods, they don't get the later 70% payment or the payment lasts for very long time. So as time goes by, they become to think the online trade is not safe, the fraud should be prevented and the service has to be better.

## **10 Conclusion**

E-Business is taking the lead offering the newest commercial information in the world. As the high-efficiency technology is developing rapidly, innovation becomes the keyword in the online marketing area. The websites such like Alibaba.com or Global sources are well developed online marketing platforms in China, the main advantage of using these platforms to setup LED business online is the low cost and they just need the user to have very little IT knowledge to run the business.

Online marketing has no difference with traditional marketing in terms of marketing research. It is rarely that a business could success with just purely based on luck and experiences. The competitions on the e-commercial webs format are intensely. Lower price strategy can no longer bring you the success, a profitable online shop or company has to have comparative advantages than others and offer good value proposition to the consumers either in price and/or in quality.

LED was invented in 1960s, but it came to China lately in 1995. The LED products have become hot since 2003 in China. Now the world is announcing to reply all normal lights by applying LED lights, so does it in China. As more

demands of projects for replacing LED from government are attracting local LED businessmen rush to compete the bidding, more people come out from fighting in it to run B2B or B2C business. And many of them run it online. Most of them are focus on trade efficiency. They wish the quality is good, but wish the valid age is short at the same time on the contrary. This thought comes from the current popular commercial culture affected by Chinese government's commercial policies which are teaching Chinese businessmen to ignore environment and earn for themselves, not for children and future. I call it 'pollution-oriented' commercial culture.

Combining the characters of E-Business and LED history and current situation in China, there are mainly three common ideas for entrepreneurs to manage online shop or company. 4P(Product, Price, Promotion, Place) strategy, brand and customer relationship are core issues while the E-business is implementing. 4P strategy circles the certain target group of clients; brand gains the credit and reputation; customer relationship maintains and brings more opportunities.

The quantitative method by data collection and its analysis were applied Combine with the study of literature review as the academic background of the development of the topic under study. A well-structured 17 questions in the survey has been designed carefully. The primary data collection method has been adopted in order to distribute and collect the data. A total of 90 respondents out of 117 have been received. Through the analysis stages of the questionnaire, the research finds out that the ages of the main group are from 20 to 39, 66.7% of them have middle or low incomes. But the yearly sales amount of their companies decide their choice for the LED products. Most of their companies have great buying and selling power, it is why they did not shows strong interests in price when answering Q12. As China is a high-context cultures country, adopt some culture research might be helpful to

determine the consumer's purchase behaviour and it is very useful for entrepreneurs to choose what kind of services to provide.

From the research, we learnt that with e-commerce's growth, the online consumers in LED field are not satisfied with the quality of online items, after-sales services and security. It means they care about their fix more. Although the low price is still remaining main reason for consumer to choose shopping online(in Q15), consumers are becoming concerning more about the quality of the product, services, newest information security of the payment and privacy more than ever before.

According to the survey we perceive that how the Chinese LED trade experts think about LED business field, and we can conclude the most effective findings for the direction of setting up online shop or company through it. First of all, you should advertise your LED product or company in Chinese and International LED trade websites, widely tell the LED trade experts the advantages and focus of your product while letting them know your contact. Based on Q14, setting up online shop or company on the Alibaba.com or Globalsources.com is necessary. No matter which platform you choose, the company web page is the source to bring visitors. Second, Q12 & Q15 tells us the price or promotion elements are not the most effective elements. Q16 & Q17 shows more than 71.1% people do not trust the quality online. As making new clients to buy a sample is the very beginning to the LED business, the web page design of your online shop or company must introduce your company and products well. The scale of your entrepreneurship has to show you can offer stable after-sales service and approvable quality. When a sample deal has been settled, you were half succeeded. Last but not least, Q8 & Figure 9 brings the key finding of this survey. The demands on illumination & large display are growing most rapidly, compared with the steadily growth in mobile phones. In Appendix 1.2 & 1.3, the OLED display material is different from LED. It's applied on mobile phones as AMOLED screen currently; the biggest



company applier is Samsung. The OLED display technology will replace all LEDs which in illumination and mobile phones application in the nearest decade. This is the solid trend, which means the large display of LED products is the best choice to run from now on while considering the history of LED technology development.

This study concluded online consumers' purchase influence and their attitude to the online service. Enable strategies and communication skills should be take into consideration in the process of selling LED items on the Internet. Innovation should be applied to both of the product and the service. The trust for first sample buying is the crucial start to the LEDs online market as well as process improvement. Customer satisfaction, usability and brand value as the competitive advantages though the use of design to grow online business. Cost saving, return on investment and develop communities of customers need to be taken into account as well.

There are also some beneficial recommendations for entrepreneurs to offer consumer the value either in terms of price or quality. The low price strategy is no longer the golden rule as the average price in E-Business is low. But if you could provide a superior quality for your LED products and services with the same or slightly higher but acceptable price to your customer then you will have more chance to outperform your competitors. But for some big deals, quality is everything, nothing else can be negotiable. So, as an entrepreneur who is willing to succeed, the quality of LED products must be confirmed.

The theoretical aim of this research is to find out what make a LED online shop or company successful in the highly developing E-Business environment. As well as to understand the main elements of online strategies and effective communication strategy to establish the long-term relationship with the customers, innovation is the keyword to the e-commerce area. Another aim is to identify the advantages to choose which website as the platform and which

specific class of LEDs as the core selling product to conduct the business. Also use the research findings to give some recommendations to the entrepreneurs about how to maintain your online LED business or how to run the business.

This research follows the guide line and gets the result as originally planned. The survey meets the study aim standing by the interviewees who are experts in this study field. With their help, this study's conclusion uphold the view that use the research findings wisely and think your business in a right direction.

## Bibliography

**Artgib, 2012.** An Introduction to LEDs. <URL: <http://hubpages.com/hub/Introduction-to-LEDs> > [Referred: 13.12.2012]

**Small Business Trends, 2002.** Small Business online marketing return on Investment (ROI). Meta-Post on 18 Online Marketing Techniques: My Internet Marketing Series. Available in www-format: <URL: <http://pegcorwin.com/2009/07/meta-post-on-18-online-marketing-techniques-my-internet-marketing-series/> >. [Referred 18.12.2012]

**John, A. 2011.** 10 Trends for Online Marketers in 2011-- A look at the latest technology tools that will influence how you reach customers. Available in www-format: <URL: <http://www.entrepreneur.com/article/217923> >. [Referred 18.12.2012]

**China Market Research Group. 2007.** Chinese Cozy Up to E-Commerce. Available in www-format: <URL: [http://www.businessweek.com/globalbiz/content/feb2007/gb20070208\\_810426.htm](http://www.businessweek.com/globalbiz/content/feb2007/gb20070208_810426.htm) >. [Referred 19.12.2012]

**Wikipedia, 2011.** Marketing mix. Avail in www-format: <URL: [http://en.wikipedia.org/wiki/Marketing\\_mix](http://en.wikipedia.org/wiki/Marketing_mix) >. [Referred: 23.12.2012]

**Wikipedia, 2009.** Bsness-to-business. Avail in www-format: <URL: <http://en.wikipedia.org/wiki/Business-to-business> >. [Referred: 25.12.2012]

**Computer land Australia. 2010.** E-business Solutions. Available in www-format: <URL: [http://www.cland.com.au/e\\_business\\_solutions.php](http://www.cland.com.au/e_business_solutions.php) >. [Referred: 07.01.2013]

**Learnmarketing.net.** THE MARKETING MIX. Available in www- format: <URL: <http://www.learnmarketing.net/marketingmix.htm> >. [Referred: 25.01.2013]

**YanKee Group. 2010.** Global SMS marketing. Available in www-format: <URL: <http://www.yankeegroup.com/research/attitudeAndBehaviorSurveys.html> >.

[Referred 27.01.2013]

**Iresearch.cn, 2013.** China 2012 Middle-Small companies B2B online sales. Available in www-format: <URL: <http://ec.iresearch.cn/b2b/20130128/192197.shtml> >. [Referred 02.02.2013]

**Chasten, I. 2001.** Strategic Internet Marketing. 1st edition. UK. McGraw-Hill.

**Lisa, H. & Charles, D. 2002.** Marketing the e- Business. Great Britain. St Edmundsbury Press.

**Charles, D. 2002.** E-business and e-commerce Management. London. Financial Times. 145-168.

**Currie, W. 2000.** The Global Information Society. Wiley Press. 3-6

**Harris, L. & Charles, D. 2002.** Marketing the e- Business. Great Britain. St Edmundsbury Press. 195-237.

**Mehmet Arik, J. Petroski, S. Weaver, 2002.** THERMAL CHALLENGES IN THE FUTURE GENERATION SOLID STATE LIGHTING APPLICATIONS: LIGHT EMITTING DIODES. *2002 Inter Society Conference on Thermal Phenomena*. 113-120.

**Robert, V.S., S.P.Denbaars, 2001.** High-Brightness LED market overview. *Proceedings of SPIE*. Vol.4445. 1-4.

**D.I.S, 2007.** LED Industry: Analysis & Investment Opportunities. 1-16.

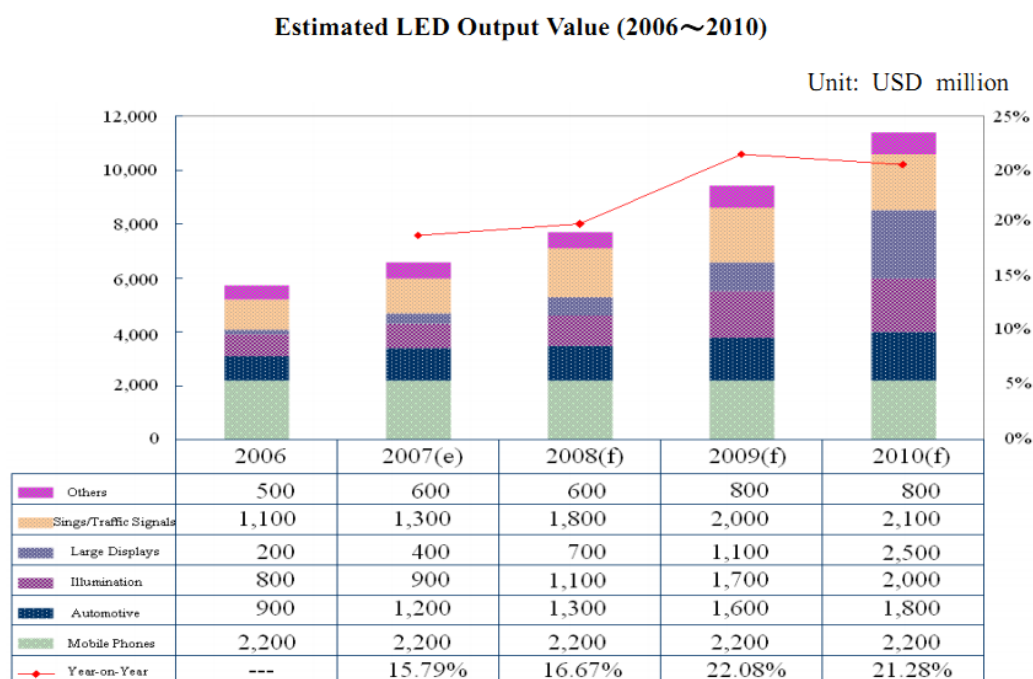
**Willcocks, L.2000.** E-business: The ultimate Practical Guide to Effective e-Business. London. Random House. 28.

**IBM Global Services. 2009.** Building a Successful e-Business. New York. Caspian Publishing.

- Hollensen, S., 2011.** Global Marketing. 5th ed. London: Pearson.
- Bolton, D. 1998.** Emerging Perspectives on Services Marketing. Chicago. American Marketing Association. 72-80.
- Peppers, D & Rogers, M. 2007.** Enterprise One to One. London. Kogan Page. 173-190.
- Godin, S. 2009.** Permission Marketing. New York. Simon and Schuster. 175-186.
- Evans, M., Wedande, W., Ralston, L. 2001.** Qualitative Market Research: An International Journal. 150-159.
- Smith, P. R. & Chaffey, D. 2008.** E- marketing Excellence. Oxford. 71-87.
- Brennan, M. 2008.** The e- business Advantage. London. Ecademists. 62-68.
- Grayton, B. 2007.** E-commerce and V- business. British Council of Shopping Centres Conference. 155-159.
- Grayton, B. 2007.** Commonsense Direct and Digital Marketing. 5th Edition. London. Kogan Page Limited. 155-161.
- Beythe, J. 2006.** Essentials of Marketing Communications, third edition, 292-297.
- Blumberg, B., Cooper, D.R., Schindler, P.S. 2005.** Business Research Methods. Berkshire: McGraw-Hill.
- Wikipedia, 2012.** OLED. Avail in www-format: <URL: <http://en.wikipedia.org/wiki/OLED> >. [Referred: 06.02.2013]
- Wikipedia, 2012.** AMOLED. Avail in www-format: <URL: <http://en.wikipedia.org/wiki/AMOLED> >. [Referred: 06.02.2013]

## Appendix 1

### 1.1 Figure 9: Estimated LED Output Value(D.I.S., 2006-2010)



Source: Compiled for the present study, 2007

### 1.2 OLED

An OLED (organic light-emitting diode) is a light-emitting diode (LED) in which the emissive electroluminescent layer is a film of organic compound which emits light in response to an electric current.

An OLED display works without a backlight. It's thinner and lighter than a liquid crystal display (LCD), any display which needs glasses or LEDs. The development of OLED devices in solid-state lighting applications is the trend to replace all kinds of glasses display including LEDs in the nearest future decade. (Wikipedia, 2012)

### **1.3 AMOLED**

AMOLED (Active-Matrix Organic Light-Emitting Diode) is a display technology for use in mobile devices and televisions. OLED describes a specific type of thin-film display technology in which organic compounds form the electroluminescent material, and active matrix refers to the technology behind the addressing of pixels.

Samsung is the biggest company which is applying AMOLED as cover screen material on mobile phones at the moment. AMOLED technology is now used in mobile phones, media players and digital cameras, and continues to make progress toward low-power, low-cost and large-size (for example, 40-inch) applications.(Wikipedia, 2012)

## **Appendix 2**

### **Questionnaire Cover Letter**

(Translated in English)

Dear Sir/Madam,

I am an International Business student at Turku University of Applied Sciences from Finland. I am conducting my research into E-business for LED market in China about how to operate the successful online company and wish to find out what kind of LED product tend to be a good target sale for a long run.

You, as the valuable and successful E-business dealer in LED Industry in China, can help in this research by consenting to participate in a confidential survey. The questionnaire will take approximately 10 minutes or less to

complete. Please complete the questionnaire and return it to me through this message box before February, 1st, 2013.

Your answers will be used only for the purpose of this research and all information provided by you will be treated as confidential. Your responses will not be identified with you personally; no any other people would be able to determine your identity based on these answers.

Knowing some front information and elites networks in LED Industry in China, as your friend, I am glad to share new technology information of LEDs and relative business contact if you need.

**Thanks for your cooperation to assist me in this research, your time and feedback are greatly appreciated.**

Researcher: Miao Cao

## **Appendix 3**

### **Survey**

1. Gender:

Male 63/90

Female 27/90

2. Age:

19 & younger 0/90

20-29 44/90

30-39 38/90

40-49 6/90

50-59 2/90



60 & older 0/90

3. Monthly income (1 Euro= 8 RMB):

1000-5000 RMB 29/90

5000-8000 RMB 31/90

8000-15000 RMB 18/90

15000+ RMB 12/90

4. The yearly sales amount of your enterprise:

3- million RMB 9/90

3-10 million RMB 16/90

10-50 million RMB 55/90

50+ million RMB 10/90

5. How often do you buy/sell online:

Never 1/90

12- times a year 8/90

10- times a month 33/90

10+ times a month 19/90

Everyday 27/90

6. How do you get to know LED:

Internet 51/90

TV/VEDIO 0/90

NEWSPAPER/MAGAZINE 0/90

Supermarket 3/90

Lighting market 22/90

Electronics market 14/90

7. Which aspect of promotion activity would you care mostly?

- Recommendation 42/90
- Professional consultation by seller 26/90
- Preference 22/90

8. What is your main LED product's application:

- Illumination 18/90
- Large Display 22/90
- Mobile Phones 20/90
- Automotive 13/90
- Signs/Traffic Signals 14/90
- Others 3/90

9. How many years do you think a light can be valid to use, an indoor light ball as the example:

- 1-5 years 8/90
- 5-10 years 57/90
- 10-15 years 17/90
- 15-20 years 7/90
- 20+ years 1/90

10. Which advantage of LED you prefer most?

- 1 LED light's valid age is averagely 40,000 hours, equals to 7 fluorescent lamps or 40 filament lamps; 19/90
- A 4.8 watt LED can replace a 40 watt filament lamp, saving 1,408 electricity degree in 40,000 hours; or replace a 9 watt fluorescent lamp, saving 168 electricity degree in 40,000 hours. 43/90
- No hydrargrum, no ultraviolet rays, no harm to human being; 18/90
- No stroboflash, good to eyes. 10/90

11. To decrease the price of LED, the valid age is also decreased, can you accept?

- Yes 66/90  
 No 24/90

12. Which you care most below when buying LED products:

- Quality & Valid age 19/90  
 After-sales service 25/90  
 Price 23/90  
 Brand 20/90  
 Appearance & Packing 3/90

13. What makes you know online business:

- Friends/Business partners' recommendation 13/90  
 Work needs 56/90  
 Decorator's advice 2/90  
 Brand reputation/Represent by stars 0/90  
 Advertisement/Promotion in market or online 19/90

14. What websites do you surf to get LED market information (Multiple choices):

- Chinese LED Industrial trade websites 52/90  
 International LED Industrial trade websites 48/90  
 [www.alibaba.com](http://www.alibaba.com) 40/90  
 [www.globalsources.com](http://www.globalsources.com) 41/90  
 [www.globalmarket.com](http://www.globalmarket.com) 32/90  
 [www.made-in-china.com](http://www.made-in-china.com) 26/90  
 Others 19/90

## 15. The reason you choose to buy online(Multiple choices):

- |  |       |
|--|-------|
| <input type="checkbox"/> Convenient and save time                      | 71/90 |
| <input type="checkbox"/> Newest information and newly designed product | 89/90 |
| <input type="checkbox"/> Centre of LED trade, Variety of choice        | 62/90 |
| <input type="checkbox"/> Good quality                                  | 21/90 |
| <input type="checkbox"/> Value in price                                | 82/90 |
| <input type="checkbox"/> Good customer service                         | 33/90 |
| <input type="checkbox"/> Security                                      | 13/90 |
| <input type="checkbox"/> Others  | 4/90  |

## 16. The reason you Don't choose to buy online(Multiple choices):

- |   |       |
|---|-------|
| <input type="checkbox"/> Trustless for quality      | 64/90 |
| <input type="checkbox"/> Trustless for market price | 43/90 |
| <input type="checkbox"/> Trustless for security     | 47/90 |
| <input type="checkbox"/> Bad customer service       | 31/90 |
| <input type="checkbox"/> Have no online account     | 1/90  |
| <input type="checkbox"/> Not used to it             | 18/90 |
| <input type="checkbox"/> Others                     | 0/90  |

## 17. What is your advice to LED trading online(Multiple choices)?

- |   |       |
|---|-------|
| <input type="checkbox"/> Product quality control and update speed | 82/90 |
| <input type="checkbox"/> Delivery and service                     | 70/90 |
| <input type="checkbox"/> Fraud Prevention                         | 54/90 |
| <input type="checkbox"/> Privacy and security                     | 41/90 |
| <input type="checkbox"/> After-sell service                       | 47/90 |
| <input type="checkbox"/> Other: __                                | 12/90 |