

Market Research: Potential Opportunities for Hydro-Culture Potted Plant in China



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**By
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List of Abbreviations

CCIPA	China Centre for Intellectual Property in Agriculture
Da Han Group	Da Han Horticulture Dev. Co.
NBSC	National Bureau of Statistics of China
RMB	Renminbi (Chinese currency)
VGB	Association of wholesalers in floricultural products
WTO	World Trade Organization

Abstract

Hydro Huisman bv as a hydro-culture potted plant wholesaling firm in the Netherlands is affected by the economic crisis and saturated potted plant market in Europe. China is a large emerging country with the population of 1.3 billion, this populated country has an amazing potential of horticultural consumption. In the past two decades, the economy in China has grown rapidly. Increasing demands for high quality products and the living environment standards as being catalysed by either economic growth or the modernization upon China. Therefore, the main objective of this research is to analyse the current situation of potted plant sector in China and provide the market-related information to Hydro Huisman bv for the potential investment decision making.

This research started by looking at the potted plant value chain and the factors influencing the performance of foreign firms in China. The results indicated that institutional market (larger buyers such as hotels, hospitals, shopping centres etc.) has the largest market share (85%) in the Chinese potted plant sector. But the demands of high quality and diversified products have been increased in the individual market because of the average income and expenditure growth of the citizens, especially in the East-Southern coastal cities. However, the complex business conditions and cultures, insufficient marketing information source are the major impediment for the foreign firms to approach to the Chinese market, foreign firms have to familiarize themselves with Chinese cultures if they want to compete in the Chinese market successfully. The suggestions are that foreign firms should identify reliable local firms as a partner or agent who are familiar with and already have had networks in Chinese potted plant sector. In addition, foreign firms should keep the supply chain as short as possible to reduce the uncertainty and risk by dealing with Chinese firms who supply directly to large retailers.

Secondly, a consumer survey was performed to collect information on consumption patterns of potted plant and the views of hydro-culture potted plant. This survey mostly conducted in Beijing, Macau and Taiwan. Over 80% of 193 respondents were willing to purchase plant to decorate their house; over 90% respondents purchased potted plant 1 to 3 times per year. Physiology health benefits, eliminating air pollutants and decorate the environment were the advantages of purchasing potted plant most widely reported by respondents whereas spending time to manage and not necessary in the household are the main reasons for not purchasing potted plant. Among respondents, street vendor and florist shop were the most favourite place to purchase potted plant while small size (9 cm diameter) of foliage plant was the most preferable species. Only 39% of respondents knew hydro-culture potted plant and 64% respondents were willing to pay higher price to purchase them compared with normal potted plant. The respondents in Macau and Taiwan were willing to pay much more money (5 to 10%) to purchase hydro-culture potted plant than in Beijing.

Chapter 1: Introduction

The first part of this thesis introduces the research topic, motivations and the structure of this thesis. Section 1.1 to 1.3 present a general introduction and position of this study and the relation to the Dutch hydro-culture potted plant firm Hydro Huisman bv. The research objectives, questions and the expected outcomes are presented in section 1.4 to 1.6, which describe the purposes and directions of the research. The chapter ends with an outline of the rest of this thesis.

1.1 Background information

The Dutch horticulture sector is widely known as a leading industry in the world. Even though the production area in the Netherlands account for only 10% of the world's production area, the Netherlands still plays an important role and maintains the largest share in the Global and European horticultural product trade, which account for 60% and 70%, respectively (Kargbo et al., 2010; NL Agency, 2011). However, after the 2008 economic crisis, the volumes of horticulture products consumption decreased considerably in some European countries like Greece, Spain and Portugal. Instead of stable condition of the market development, horticulture market became fluctuated both in cut flower and potted plant market (IPM ESSEN, 2012). Hydro Huisman bv, as a hydro-culture potted plant wholesaling firm in the Netherlands, is affected by the economic situation and saturated potted plant market in Europe (Tikken, 2012). Therefore, Hydro Huisman bv is likely to access to a new potential market in order to maintain or expand the market share.

Since joining the World Trade Organization (WTO) in 2001, China has become the largest horticultural consumption country in the world. As economy growth, the average income and expenditure of the people have been increasing during the past decade, especially in the coastal cities in China (Chen et al., 2003). But compared to the developed countries, such as United States and the Netherlands, the floricultural consumption in China is relatively lower. However, according to the survey from HY Consultancy (2010), the increase in population, wealth, and the demand of high quality living standard in China are promising for the growth of the domestic floricultural consumption.

Until now, the supply chain related difficulties are the major impediment for the foreign firms to do investment in China (Collins and Sun, 2009; Fiang, 2002). Compared with underdeveloped physical infrastructure, fragmented distribution and logistics sector (Chen et al., 2003), the complex business conditions and cultures are the major challenges for the foreign firms, for instance, supplier and buyers are dependent more upon *Guanxi* (personal relationship) and *Xinyong* (personal trust) rather than trust to conduct their businesses because of the imperfect Chinese legal system and inadequate marketing information source (Leung et al., 2005; Millington et al., 2006). Thus, foreign firms have to learn how to penetrate those unavoidable issues if they want to compete in Chinese market successfully.

According to the significant average income and expenditure growth of the citizens in China, it is expected that the main direction for the Chinese flower industry would be to further develop its home market and individual consumption (HY Consultancy, 2010; Kargbo et al., 2010; Xu, 2010; Zhou, 2010). Xu (2010) and Zhou (2010) pointed out that water-growing (hydroponic) plant as novel products are very popular in China particular in the individual market due to the advantages like clean and easy to manage. Hydro Huisman bv as a professional supplier of hydro-culture potted plant, individual market seems to be the largest potential opportunity in China.

However, the marketing information sources in China are imperfect, heterogeneous and hardly to obtain, like the purchasing behaviour, consumer preference of potted plant which are necessary for making good decisions as to where, when, to whom, and at what price to buy or sell. Therefore, understanding the business cultures and obtaining the accurate marketing information from Chinese potted plant sector would strengthen the competitive advantages of the foreign firm – Hydro Huisman bv in the most complicated market - China.

1.2 Research problem

Due to the economic crisis and the saturated potted plant market in Europe, Hydro Huisman bv is likely to expand the market share by exporting their products (hydro-culture potted plant) to the largest potential market - China. Although the horticultural consumption in China has been increasing rapidly over the last decade, there remains many supply chain related difficulties such as complex business conditions and cultures, inadequate reliable marketing information sources. All of these problems are the major impediment for Hydro Huisman bv to approach the Chinese potted plant market.

1.3 Problem owner

Hydro-culture potted plant wholesaling firm - Hydro Huisman bv

1.4 Objective of the Research

This research has two major objectives. Firstly, it aims to analyse the current Chinese potted plant sector and the existing problems regarding chain related issues, such as sale distribution modes, relationship among different chain actors, and the business conditions and cultures in China. Secondly, it investigates the purchasing patterns of potted plant, furthermore, the acceptance and view of hydro-culture potted plant by the Chinese consumers.

1.5 Research questions

Main questions

1. What are the features of Chinese potted plant industry?
2. What are the major difficulties faced by Hydro Huisman bv to do investment in China?

Sub-questions

- 1.1 What is the current potted plant value chain in China?
 - 1.2 What is the power relationship among different actors in the Chinese potted plant value chain?
 - 1.3 What are the characteristic of potted plant consumption in China?
 - 1.4 What are consumers' preferences of potted plant?
 - 1.5 What is the consumer acceptance and view of hydro-culture potted plant?
-
- 2.1 What are the chain-related problems faced by foreign firms if they are likely to do investment in China?
 - 2.2 What are the strategies do foreign firms use to prevent or eliminate the chain-related problems?

1.6 Expected Output

Several interviews and consumer survey were performed to collect information on the Chinese potted plant sector and the purchasing pattern of consumers. Thus, Hydro Huisman bv would obtain the market-based information regarding the feature of Chinese potted plant sector, the experiences from the other foreign firms how they prevent or eliminate the chain related problems in China, and also the purchasing behaviour of Chinese consumers. According to this obtained information, Hydro Huisman bv can develop the practical strategies for the future investment in China.

1.7 Outline of the thesis

The structure of the thesis is shown in Figure 1. The Chapter 1 lists the background information and motivations of conducting this research. In Chapter 2, the literatures review presents the current conditions of potted plant sector in the Netherlands and China, also introducing the problem owner - Hydro Huisman bv, and the chain-related difficulties faced by foreign firms in China. Methodology is described the research areas and methods regarding case study and consumer survey. Results and discussion are presented in Chapter 4. Finally, the thesis concluded with SWOT analysis to explain the Chinese potted plant market and the opportunities for hydro-culture potted plant in China, also provided the recommendations for Hydro Huisman bv on how to further develop their business in China.

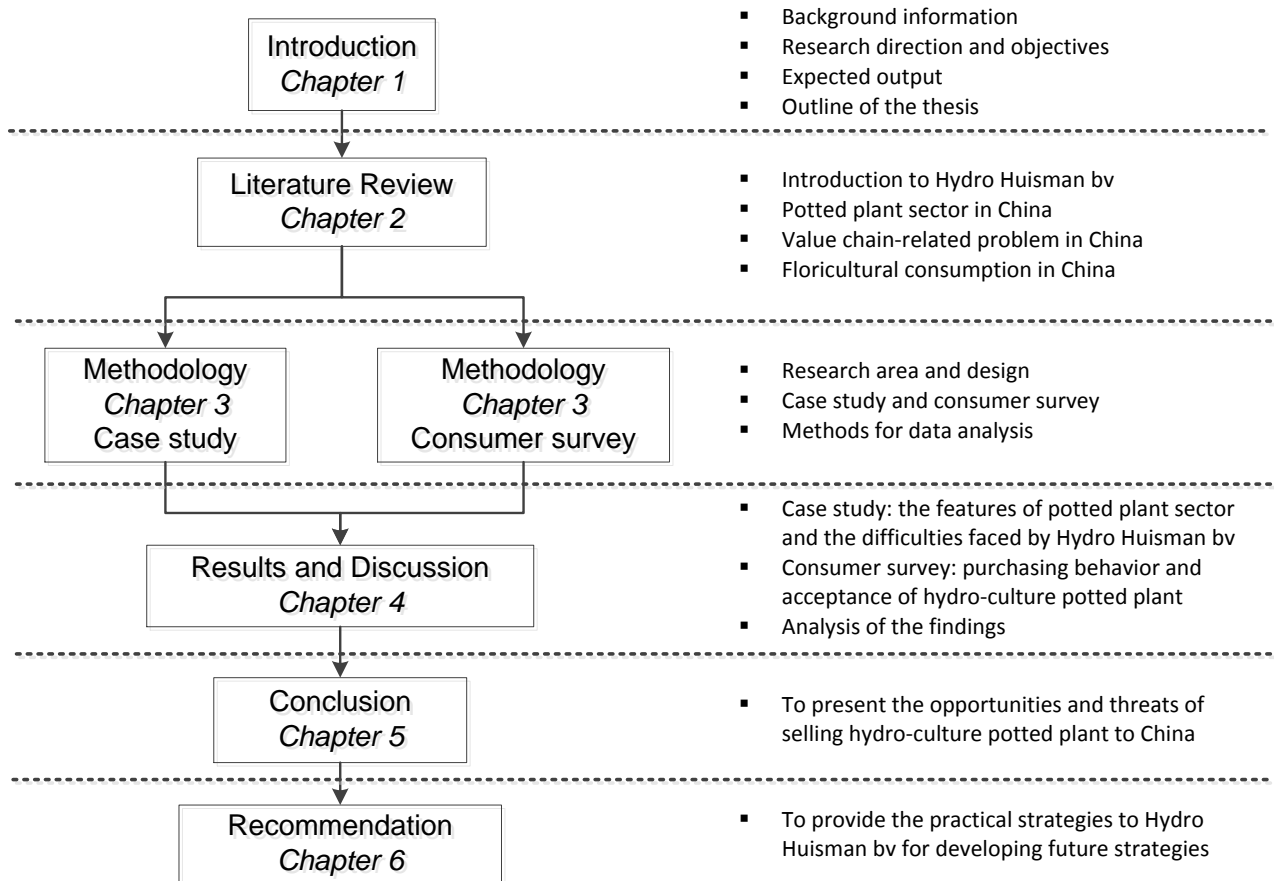


Figure 1. Outline of the thesis.

Chapter 2: Literature Review

The objectives of this chapter are to provide an introduction to the Dutch potted plant sector and the hydro-culture potted plant value chain of Hydro Huisman bv. Secondly, the chapter also reviews the literatures which related to the current situation of Chinese potted plant sector and the related issues like business conditions and cultures, also the potted plant consumption pattern of the Chinese consumers.

2.1 The potted plant sector in the Netherlands

The Netherlands plays a pivotal role in the international network, trade, production, breeding for floricultural products in the world. Until now, the Netherlands has the largest share in the EU trade and global trade of ornamental plant products, which account for 70% and 60%, respectively (Kargbo et al., 2010). According to NL Agency (2011), the total horticulture production in the Netherlands amounted to 7.9 billion euro in 2010, of which 5.2 billion euro is ornamental horticulture production. The flower auctions, well developed infrastructures, efficient distribution system, and the high technical skills for the breeding, production and research are the critical success factors of the Dutch horticulture industry.

In recent years, the volumes of flower and potted plant consumption are falling in Europe, especially in Greece, Spain and Portugal, due to the economic crisis. IPM ESSEN (2012) pointed out that, the trade of potted plants in the first half of 2011 had showed 10% below the level in the previous year in the intra-European.

Auctions are wholesale market places, generally created by growers to market their products. FloraHolland is the world's largest auctioneer for cut flowers and plants. The Dutch flower auctions still function as a hub for the European plant trade. However, Dutch horticulture sector also affected by the economic crisis, Figure 2 shows the turnover of different kinds of floricultural products in the Dutch flower action. Compared with the indoor plant (included potted plant), the consumption of cut flower showed a fluctuation between 2007 and 2011. The potted plant sales exhibited a tendency towards slight increases (FloraHolland, 2012). This trend could be explained by altered consumer behaviour. The purchasing behaviour of consumers has been changed in term of indoor foliage plants offer most value for money than cut flower. But overall the floricultural market is getting saturated and at the same time new markets are developing in the world (CBI, 2009; IPM ESSEN, 2012).

Apart from serious impacts brought by the international financial crisis, the issues of low floricultural consumption and the saturated market in European markets have a negative influence on the floricultural sector in the Netherlands. Thus, accessing new and potential market is a strategy to main the floricultural market share and future development of Dutch horticulture sector. Since joining the World Trade Organization (WTO) in 2001, China experiences a rapidly economic growth. The average income and expenditure in China is higher than the past, people are willing to purchase the luxury goods and pay more attention in the living environment improvement. Therefore, the raising demands of high quality or diversified products caused high purchasing power and making China becomes the most potential market in the world.

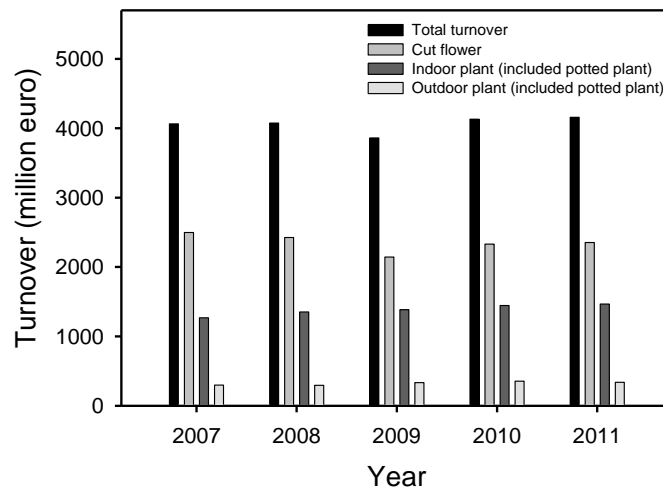


Figure 2. The turnover (in million €) of cut flower, indoor and outdoor plant at the Dutch flower auction (FloraHolland, 2012).

2.1.1 Background information of Hydro Huisman bv

Hydro Huisman bv is active in cultivation and sales of hydro-culture potted plants and accessories since 1975 (Table 1). They purchase plant materials, hardware like water indicator, culture pot and containers from other countries or companies. After purchasing, Hydro Huisman bv combine plant and hardware to a hydro-culture potted plant. Thus, customers can purchase different combinations which depend on their purposes. Nowadays, Hydro Huisman bv is located in Huissen/Bemmel and Aalsmeer, the location in Aalsmeer sells products to the western part of the Netherlands and also the to the foreign countries. In most cases, the exported products distribute through Schiphol airport and the harbour in Rotterdam. In Huissen/Bemmel where has a 30,000 m² nursery greenhouse for acclimation, rooting and transplanting, this location is mainly supply the products to east-southern part of the Netherlands (Hydro Huisman bv, 2012; Tikken, 2012).

Table 1. The products sold in Hydro Huisman bv (Hydro Huisman bv, 2012).

Products	Description
Hydro-culture potted plants	The height of the plants varies from 8 cm up to 8 m. Offering a wide variety of plant-container combinations.
Planters (containers)	Offering various types of planters (containers), such as ceramic, metal, synthetics, wood, etc.
Accessories	Water level indicators, hydroponics grains, nutrient etc.
Artificial Plants	For the environment where are not suitable for the plant growth, for instance, low light intensity in the indoor environment.

Hydro-culture is a cultivating system of growing plant without soil. Hydro-culture potted plants are made up by several parts: plants, water level indicator, planter (container), culture pot, clay pebbles and water reservoir (Figure 3). Clay pebbles as the medium to take place of the soil, it has good characteristics such as porous, retain moisture and transfer moisture to the plant's root. The plant species should be selected by suitable for growing in hydro-culture system, like the indoor foliage plants such as Dracaena, Aglaonema, Ficus, and the flowering plants like Anthurium, Spathiphyllum, and Succulents. The major advantage of hydro-culture system is easy to manage, consumers just need to follow the marker shown in the water indicator to decide when they need to water the plant. Culture pot is made of plastic and designed by holding the water indicator and plants, the bottom of culture pot is opened and the air and water can through this opening bottom to the plant's roots. The planter (container) and water reservoir save the water in this closed system to prevent leaching (Hydro Huisman bv, 2012; Tikken, 2012). Compared with the normal potted plant, the advantages of hydro-culture potted plant are shown below:

- A. Easy to manage: water indicator shows exactly when to water
- B. Prevent leaching and watering automatically
- C. Clean, odourless and free from soil-related pests / diseases because it uses soil-free medium
- D. Using nutrient solution, plant can uptake the nutrients efficiently

In addition, the planter (container) can be changed to different types and textures like ceramic, metal, synthetics, wood to increase the ornamental value. Thus, hydro-culture potted plant is not only a floricultural product, also can be presented as furniture in the indoor environment (Tikken, 2012; Uva et al., 1998).

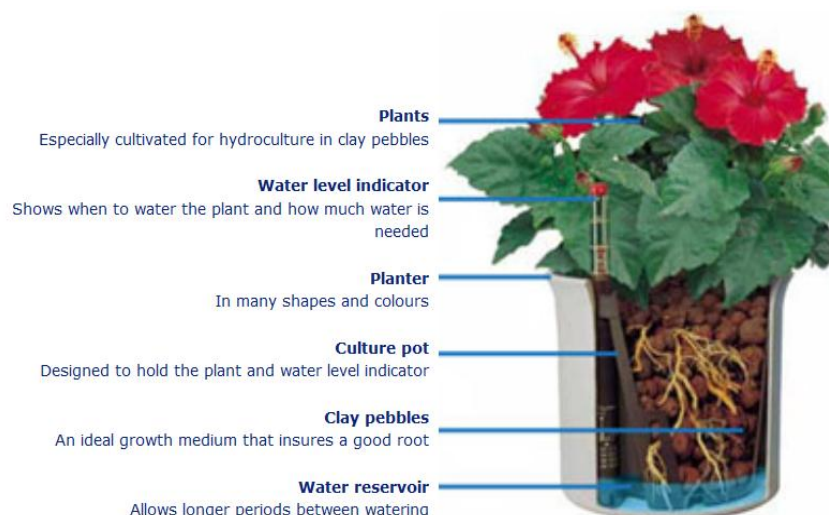


Figure 3. The different functions of various part of hydro-culture potted plant. Photo from (Hydro Huisman bv, 2012).

2.1.2 The potted plant value chain of Hydro Huisman bv

The Netherlands has the advanced technology and efficient production system in the floricultural sector, like greenhouse environmental control system (lighting, shade screen, heating and irrigation system). But this automatic system attendant upon the high production cost. Therefore, most of the horticulture firms in the Netherlands are increasingly looking for the outsource parts of the production process. Growers mostly relocated the production process to low-cost area, like the developing countries in African and Central American. Thus, there are three major distribution channels of plant materials to the Netherlands (Figure 4). The imported plant materials would be delivered to various stakeholders after arrival in Europe. Finally, the finished plant (potted plant or cut flower) would sell to the wholesalers or retailers through the Dutch flower auctions (CBI, 2009).

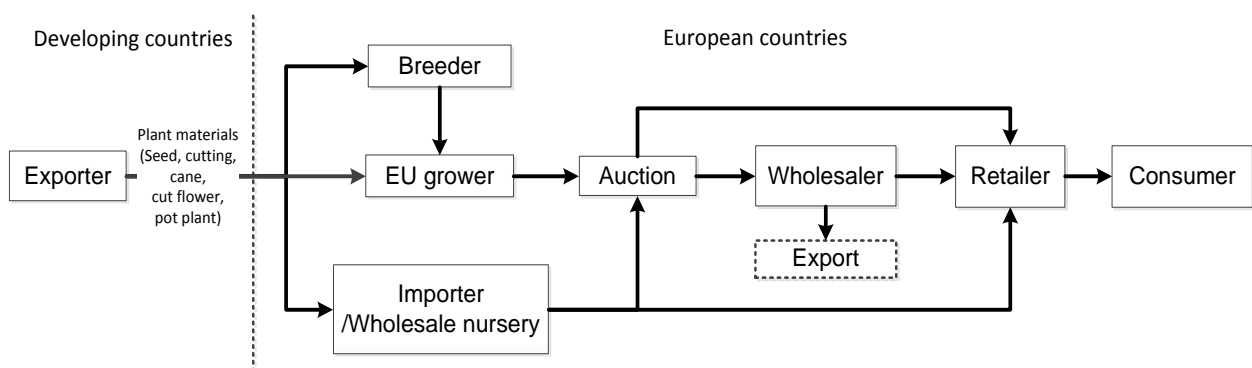


Figure 4. Distribution structure of plant materials in Europe. (Modified from CBI, 2009)

Hydro Huisman bv is a wholesaling firm in the Netherlands, they import tropical species from Central American like Costa Rica, Guatemala and Cuba. Those species can be pruned or delivered as canes and cuttings to make them less voluminous in order to reduce the transport costs. Apart from the imported plant materials, Hydro Huisman bv also purchases the young plants from the Dutch flower auction. After arrival at the nursery, soil or other medium would be removed from the plant materials. After that Hydro Huisman bv would transplant the plant into clay pebbles with culture pot. Finally, the finished hydro-culture potted plants would be relocated into the shading nursery for acclimating (Tikken, 2012).

The hydro-culture potted plant chain is shown in Figure 5. Hydro Huisman bv act mainly as a wholesaler and in this capacity they are part of the sector association VGB (Association of wholesalers in floricultural products). VGB is a supporter organisation and provide market-based information such as the background of new customers who want to purchase the hydro-culture products from Hydro Huisman bv. Such information help Hydro Huisman bv identify the potential customers and reduce the uncertainty and risk of doing business with new customers (Hydro Huisman bv, 2012; Tikken, 2012).

In Europe, there are three main purposes for purchasing floricultural products. Take potted plant as an example, plant purchases for own use to decorate the house or as a gift in special occasions like Christmas and Mother's Day. Thirdly, the interior landscapers, designers, and construction companies purchase large-sized foliage potted plants mainly for the decoration of the indoor environments like offices, shopping malls and airports (CBI, 2009).

Nowadays, indoor landscape companies, garden centres and florists are the main customers of Hydro Huisman bv. Hydro Huisman bv provides a wide range of species and containers combinations to the customers. In the foreign market, Hydro Huisman bv has already exported hydro-culture potted plant and hardware like water indicator to Saudi-Arabia, Taiwan and Korea. In most cases, they just export hardware to Asian countries because of the high transportation cost and the different consumer preference for potted plant species compared with European market (Tikken, 2012).

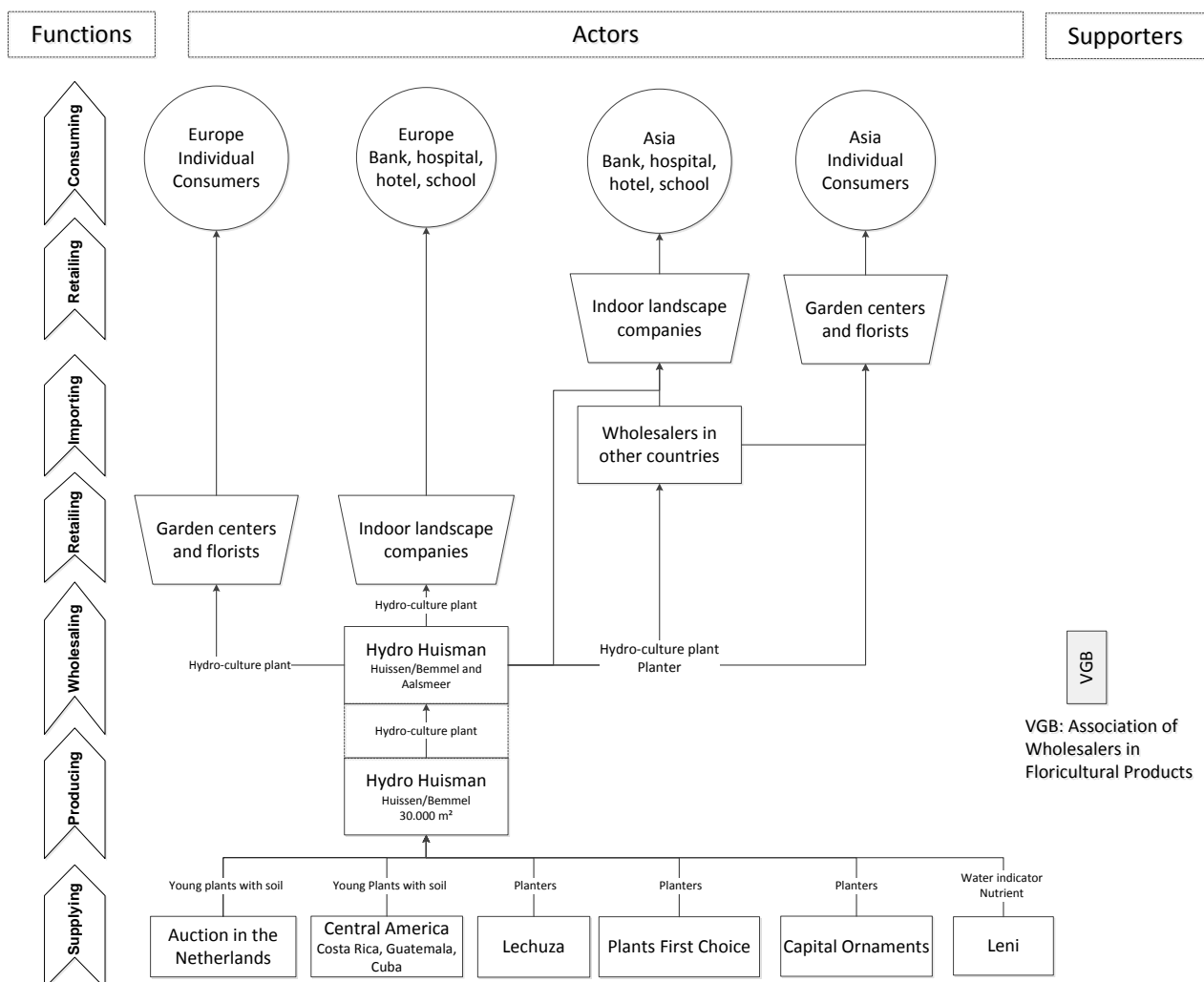


Figure 5. The hydro-culture pot plant chain in Hydro Huisman bv.

2.1.3 Marketing strategy of Hydro Huisman bv

City life normally is surrounded by tensioned pace, noises, and polluted air. Additionally, the quality of the indoor environment has direct impact on the health of urban dwellers (Fanger, 2006), since people spend 80% to 90% of daily time indoors (Klepeis et al., 2001). Scientific studies showed that indoor plant decoration has positive impact on our health, tension and fatigues relief (Dravigne et al., 2008; Lorh et al., 1996; Park and Mattson, 2009). Apart from the psychological benefits, Wolverton and Wolverton (1993) investigated the air pollutants removal capacity of common indoor plants. The results indicated that indoor plants such as Epipremnum, Ficus, and Boston Fern can remove the indoor air pollutants like formaldehyde, benzene, and trichloroethylene efficiently. Therefore, consumers increasingly consider foliage plants as an important part of their interior.

Nowadays, most individual consumers have come to realise that future generations also have the right to inherit a healthy environment. The potted plant species provided from Hydro Huisman bv are suitable for cultivating in the indoor environment, besides of this, easy to manage and watering automatically are the major advantages of hydro-culture system. All of these advantages are the major demands from the people who are living in the busy world. Thus, Hydro Huisman bv focuses on the indoor market such as offices, banks, hospitals where the employees have to spend over 70% time indoors. On the other hand, Hydro Huisman bv provides the combinations of hydro-culture plants and different kinds of containers to the customers. There is a trend of adding value to plants by presenting them in groups or with the addition of co-ordinated ceramics or other fashionable containers, almost as a piece of furniture. (Tikken, 2012).

Since January 2003 Hydro Huisman bv has, especially for the consumers' market, put a sales concept into the market, called Hydrohome. Hydrohome is a brand name connected to hydro-culture at a high level. This brand is setup purely for the consumers' market. Hydro Huisman bv selects florist's who can be labelled their hydro-culture with a quality brand towards the consumers' market. This brand name helps consumers to identify the qualify retailers further to ensure that consumers can receive high quality services and products. Meanwhile, this activity also can improve the reputation of Hydro Huisman bv in the individual market (Hydro Huisman bv, 2012).

2.2 The potted plant sector in China

In the past two or three decades, the economy has grown rapidly in China, particularly, China has been a member of WTO since 2001. The accession of China to the WTO has forced many changes and modernization upon the society (Chen et al., 2003). The incredible income growth has fuelled a shapely increase in both the quantity and the quality of agricultural products; this trend especially appeared in the East-Southern coastal cities (Bonarriva and Weaver, 2011).

China has a population of over 1.3 billion people, ranging from poor rural farmers to wealthy urban dwellers. During 1960s and 1980s, over 80% of China's population lived in rural areas (Figure 6). However, beginning in the late 1980s the rural population began to decline as people migrated to cities to find employment, and by 2010 almost 50% of the population was living in urban areas (Bonarriva and Weaver, 2011; NBSC, 2012). Urban and rural Chinese show different consumption patterns, urban dwellers are competent to spend much more money to purchase high quality products which means that there is an opportunity of the large agricultural consumption from the massive urban population.

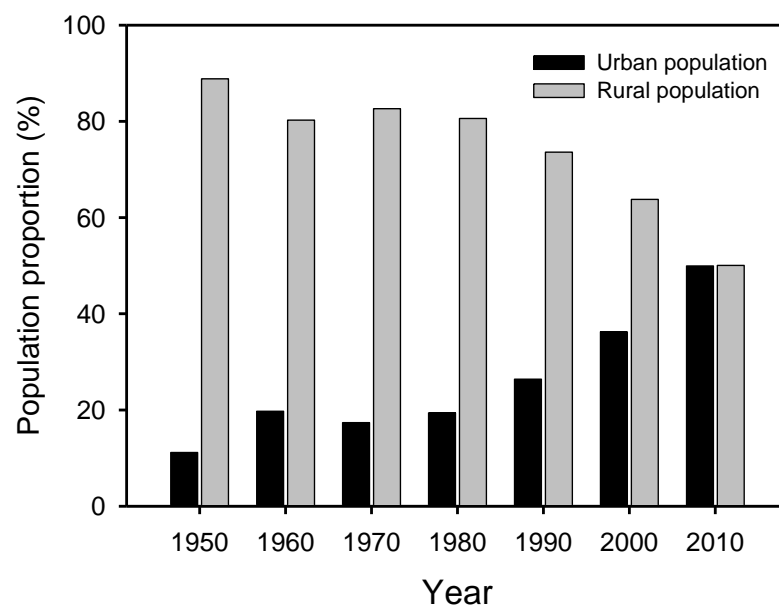


Figure 6. The change of population proportion in urban and rural area (NBSC, 2012).

In China, rising incomes over the past three decades have significantly lowered the poverty levels (Figure 7). For instance, before 1990's the average income lower than 2000 RMB. In 2010, the average per capita income was approximately 19000 RMB (Bonarriva and Weaver, 2011; NBSC, 2012). As the economic and average income growth, the expenditure per capita has been increased, in 2010 the level of expenditure was more than triple compared with the level in 2000 (Figure 7) (NBSC, 2012). With the rising purchasing power in China and thus a greater demand from

citizens has shown a steady increase for more varieties and quality of horticulture products, especially in the prosperous East-Southern coastal cities like Beijing, Shanghai, Macau (Kargbo et al., 2010).

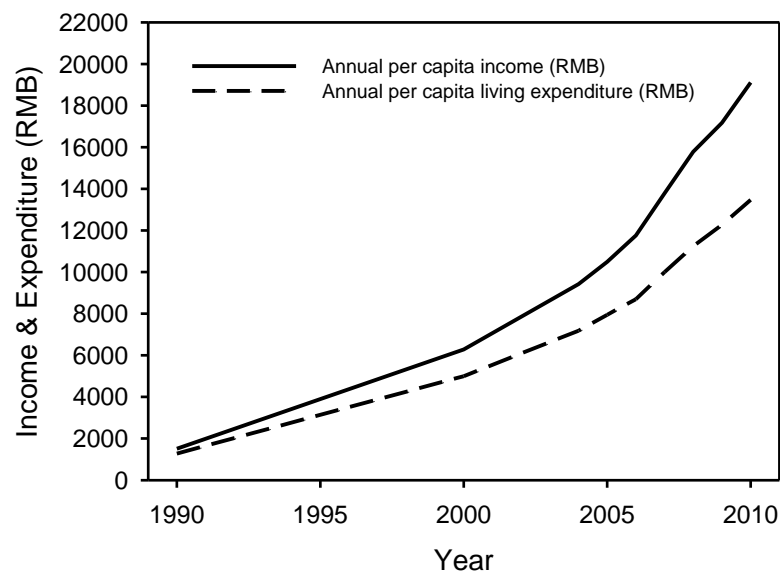


Figure 7. The annual per capita income and living expenditure of urban household in China (1 euro = 8.15 RMB) (NBSC, 2012).

The combined effects of rising income and urbanization caused the change of consumption patterns in China. Per capita income growth translates into higher expenditure, while increasing urban population is driving the demand of high quality and diversification of floricultural products. China, especially the coastal cities, has the potential to become the largest world consumption of floricultural products in the near future.

2.2.1 Potted plant value chain in China

The Chinese potted plant chain map is presented in Figure 8. In China, there have two major types of supplier, foreign and local suppliers. Farmers can purchase fertilizer, pesticide and medium from local suppliers directly whereas foreign suppliers are likely to sell their products to traders or young plant firms. If the local Chinese firms have a partnership relationship or collaboration with foreign suppliers, this local firms are called the Chinese agent or partner of the foreign firms.

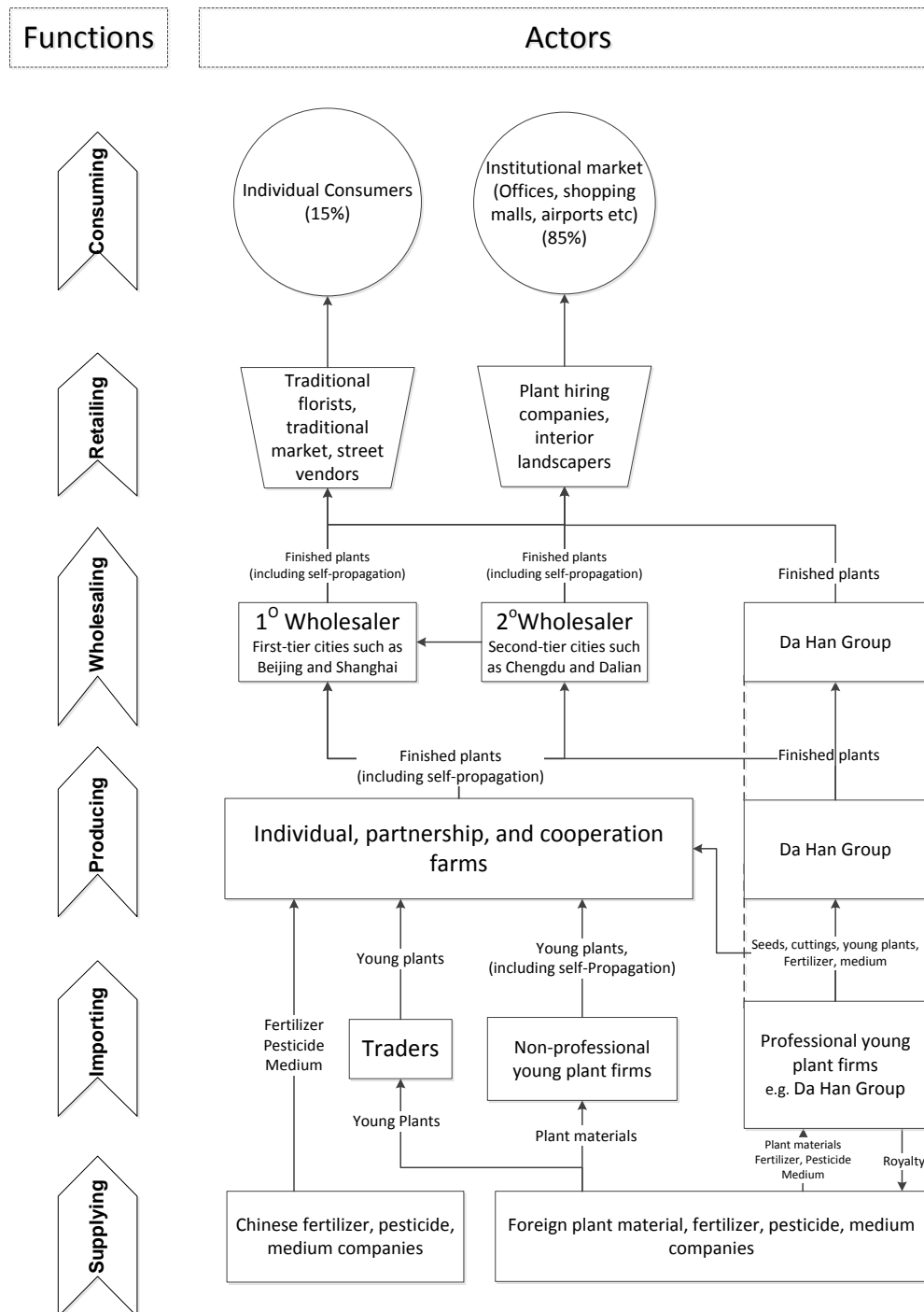


Figure 8. The potted plant chain in China.

Compared with the normal importers, Chinese agent has to pay the royalty to the foreign firms according to how many products they sold to the farmers. For instance, Da Han Group is an agent of Paul Ecke (U.S.A.) in China. The royalty they paid is calculated by how many poinsettia cutting they sold. In addition, because of this partnership, Da Han Group can establish the largest official Asian mother stock production facilities for producing poinsettia cuttings (Mak, 2012).

Besides the Chinese agents, traders and non-professional young plant firms are the other major importers in China. Traders only import young plants from foreign countries. But the imported species mostly are out-dated varieties or the quality is not guaranteed. In China, some producers purchase self-propagated young plants or cuttings from non-professional young plant firms in order to reduce the production cost. Compared with the traders and non-professional young plant firms, the professional young plant firms, like Da Han group, guarantee the quality of plant materials and provide the after-sales services like farm visiting, technical support, training, seminar to the farmers (Table 2).

Table 2. The different between trader, non- and professional young plant company in China.

Function	Source	Quality	Services
Trader	Importing young plants (out-dated species or low quality) from foreign countries	Medium	No
Non-professional young plant firm	Self-propagated young plants or cuttings (mostly re-propagated from older plants)	Low	No
Professional young plant firm (agent or partner)	Cooperating with breeding company, establishing mother stock facilities to produce high quality seedlings, cuttings and young plants.	High	Quality guarantee, training, seminar, products and technical information support, farm visiting etc.

The potted plant producers in China are generally fall into one of three categories: individual, partnership and cooperation (enterprise). These three categories are according to the structure of the firm. In China, individual producers have the largest proportion in the potted plant sector, included family farmers and couple farmers. Most of the individual producers are relatively small, traditional, and labour intensive. Partnership producers mean two or three different firms invest and establish a new firm to produce potted plant. Cooperation (enterprise) producers not only for production, also have several functions like logistic, wholesaling and retailing etc.

China has a large land area, in order to distribute the horticulture products to different cities in an efficient way; there has two levels of wholesaler, 1^o or 2^o wholesalers. 2^o wholesalers are located in second-tier countries like Chengdu and Dalian, where are

more close to the production area (rural area). 1^o wholesalers are located in the first-tier countries like Beijing and Shanghai. In most cases, 2^o wholesalers would re-sell the products to 1^o wholesalers after collecting the products from producers.

The wholesalers play a pivotal role in Chinese horticulture industry. A lot of potted plant producers sell their products through wholesalers because the flower auction in China only for selling cut flower. Plant hiring, landscape and greening companies are the major customers of wholesalers in China because the requirements (low diversification and high quantity) are relatively simple compared with the individual market. Consequently, the Chinese producers are hardly to obtain the marketing information from the individual market (Figure 9).

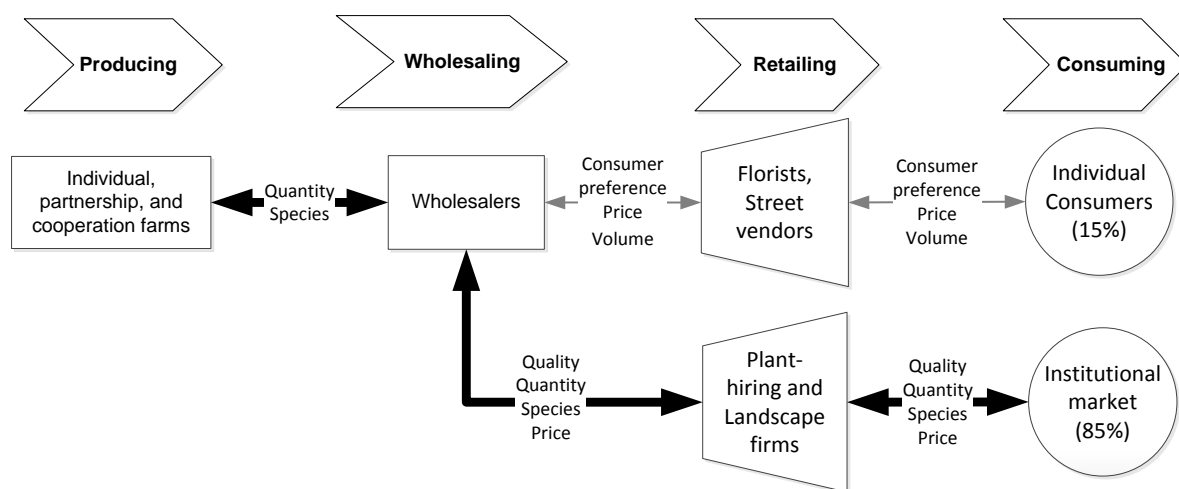


Figure 9. The information flow chart in potted chain sector in China.

As mentioned before, institutional consumption has a largest market share (85%) in Chinese potted plant sector. The plant hiring, landscape companies provide potted plant renting service to the institutional consumers like banks, government departments, hospitals, and shopping centres. The services provided from those companies are labour intensive which included maintaining, watering and removing the wilting potted plant regularly. Even though the market share of individual consumption only accounts for 15%, the floricultural products consumption is expected to increase as the economy and average income grows. Kargbo et al (2012) pointed out that the direction for the Chinese floricultural industry should be to develop its home market. Therefore, how to encourage individual consumption and develop the home market are become the first priority to address in the near future.

2.2.2 The business conditions and cultures in China

In the past two decades, the economy grew very rapidly in China. A new phase of adjustments happened, the preference of consumers has been shifted from quantity to quality (OECD, 2005). Nowadays, Chinese government encourage the foreign investments and the aim at maximizing knowledge transfer from foreign to Chinese firm to improve the level of the industry. Because of these reasons, exposure to international market stimulated the Chinese government changes regarding political and structural especially after the accession to WTO. China has to fulfil the commitments of WTO like substantially reduced its tariffs. In 1992, the average tariff for agricultural products was 42% ad valorem and fell to 12 % ad valorem in 2007 (Bonarriva and Weaver, 2011). Therefore, it seems that Chinese government has already offered good business opportunities and conditions for the foreign firms.

Doing business in China - the world's largest single consumer market – poses great challenges for foreign marketers. Fiang (2002) pointed out that foreign firms face many supply chain-related difficulties which could be summarized into two main problems. Firstly, the underdeveloped physical infrastructures like insufficient distribution system. Secondly, the complex business conditions and cultures which included weak supplier-customer relation, poor communication among stakeholders, opportunistic behaviour, lack of commitment and trust (Collins and Sun, 2009; Collins et al., 2012; Qian et al., 2007). But according to the interview with Mr. Mak, Chinese government has already established modern flower auctions and distribution centres nearby production area. Logistic system and other infrastructures are relatively mature compared with the past decade. Hence the following sections would focus on discussing the business conditions and cultures, also the difficulties faced by the foreign firms.

The role of *Guanxi* and *Xinyong* in Chinese market

Doing business in China is dependent more upon *Guanxi* (personal relationship) and *Xinyong* (personal trust) rather than trust to conduct businesses. According to the definition from Leung et al (2005) and Millington et al (2006), '*Guanxi* is a system of personal connections that carry long-term social obligations – are held to play a significant role in relationships within and between organization in China'. '*Xinyong* is the integrity, credibility, trustworthiness, or the reputation and character of a person'

Accurate information is necessary for making good decisions as to where, when, to whom, and at what price to buy or sell. In China, it is difficult to obtain the market-based information due to the massive size and inefficient information system. The information from other actors, even from relationship firms and official government website are imperfect, heterogeneous or non-existent. Collins and Sun (2009) compared the management of business relationship among firms in supply chains between China and Australia. Results indicated that the belief of Chinese firms put more emphasis on establishing a supplier's social network and relationships rather than the legal contract framework. Chinese firms showed less trust to the information and commitment to their key supplier and key customers than Australian

firms did. Because of these reasons, *Guanxi* and *Xinyong* play an important role in the current Chinese market. These are the major force in the society and provide a mechanism through people and firms can successfully seek and develop working partnerships. Chinese firms prefer to do business to a company which has high *Xinyong* and strong *Guanxi* instead of doing business with high reputation companies (Leung et al., 2005; Millington et al., 2006; Qian et al., 2007). Thus, the foreign firms have to familiarize themselves with Chinese business culture when they extend their business to China.

Insufficiently consistent standard and price in China

Establishing a consistent standard is a crucial step in trading because it helps trade to become more efficient to avoid the need for personal inspection, reduce handling cost, and stimulate long distance trade. Therefore, insufficient grading and standard system would increase the transaction cost and make consumer confusing.

Nowadays, Chinese potted plant producers still prefer to sell their product in the traditional face-to-face market due to inadequate consistent standard. Even in the Southern part and Northern part of China, the selling price is totally different. In the South, the selling price is determined by plant height whereas diameter of pot is the main consideration in the North China. Chinese government has not provided an official platform to the producers to sell their products or obtain market-based information. For instance, Kunming is the largest floricultural production province, the Kunming International Flower Action only for cut flower sales. Therefore, most of the producers have to establish their own grading system and negotiate with the buyers every time (Mak, 2012; Wang, 2005). HY Consultancy (2010) noted that the price of floricultural products is fluctuating during the year and cities (Table 3) because of the inadequate supply and consistent standard.

Table 3. Annual average price of best-selling flowers one stem or one pot (RMB) (HY Consultancy, 2010).

Species		Beijing	Guangzhou	Chongqing	Kunming	Shanghai	Nanjing	Flower Union
Cut flowers	Lily	10	8	8	3-4.5	10	8-15	10
	Chinese rose	8	8	3-5	8	5	5	8
	Carnation	0.53-1	1-3	>0.3	0.25	0.5-1	0.5-1	0.53-1
Potted flowers	Phalaenopsis	120	150	100-200	150-250	100-300	20-150	120
	Cilivia	200-300	300-500	400	120-250	200-400	50-150	200-300
	Anthurium	50-60	16-30	50-60	40	50	100	50-60
	Cymbidium	450	80-100	100-200	80-100	100-500	250-400	-
	Peony	150	-	90	-	150-300	100-200	-
Potted plants	Pachira macrocarpa	300	> 100	200	100-160	250	100-200	300
	Rad							
	ermachera							
	sinica	180-260	300-600	300	60-100	150-200	100-200	180-260
	Spathiphyllum kochii	40	50-70	30-40	12	50-100	35-45	-
	Ficus elastica	90-200	30-160	90	20-60	100-120	80-120	-
	Scindapsus aureus	60-400	35-100	50-80	30-50	150	100-120	60-400
	Broadleaf bracket-plant	10-80	50	10-50	10-20	20	15	10-80

Note: "-" means there is no information available.

Source: 6 visited cites

Intellectual property right in China

Counterfeiting is a common problem faced by the foreign firms in China, it takes place in all industry areas and not only restricted to luxury goods or famous brands (Devonshire-Ellis et al., 2011). Hence, the promotion and protection of intellectual property have emerged as contentious topics in China.

In the floricultural sector, the issues of self-propagated young plant always appeared in the small scale farmers. Small scale farmers mostly prefer to purchase low price plant materials, even the quality is not guaranteed. Mak (2012) noted that it is pointless to prevent this infringing activity or solve it by law in an environment that is characterized by uncertainty and a relatively weak legal framework.

Since 2001, the accession of China to the WTO has forced many changes on the China society, one of the thing is the third revision of the 2008 Chinese Patent Law which has risen to meet the international standards (Devonshire-Ellis et al., 2011). China Centre for Intellectual Property in Agriculture (CCIPA), as an academic institution and mainly engages in researches related to intellectual property in agriculture, has been found in 2007. According to the report from CCIPA (2012), the number of agricultural patent application has been increasing during the past decade by average 26.37% per annual.

2.2.3 Consumption patterns of floricultural products in China

The increase in living quality, consumer wealth and population in China are influencing the consumer preference of floricultural products. Zhou (2010) mentioned that compared with the past decade, the demands for colour, texture, varieties as well as the packaging type of the floricultural products are increasing. Chinese consumers are willing to purchase high quality floricultural products. Nowadays, the purchasing of floricultural products is represented as a fashionable behaviour in the society especially the young generation. In terms of the floricultural products consumption in China, this generally falls into one of four categories: First, regional consumption; Second, institutional consumption; Third, gifting culture; Fourth, festivals consumption (Li, 2006)

Regional consumption

Besides the incomes have been rising quickly in China, there still has a big income gap between urban and rural area. Bonarriva and Weaver (2011) pointed out that in China the average urban incomes are 3.3 times the average income in rural area. Purchasing of floricultural products for many people is still luxury consumption that not everyone can possess particular in rural area. Therefore, floricultural consumption is mainly concentrated in big cities, such as East-Southern coastal cities like Guangzhou, Shanghai, Beijing, Shenzhen where the residents has the higher income.

Institutional consumption

Floricultural consumption in China is still in the institutional purchases-oriented stage, there is no formation of a mature, stable individual or home market. According to Mak (2012), the institutional consumption has the largest market share in potted plant market. This phenomenon is also reflected in the distribution of florists, HY Consultancy (2010) visited six Chinese cities. Overall 65% of the florists are located at flower markets, 25% in the neighbourhood of government buildings and 14% in shopping centres. Surprisingly, only 3 shops are located in residential area.

Gifting culture

In China, gifting is a cultural norm also is a traditional custom in the society. For individuals and families, gifting means understanding and love, for companies, gifting means connecting human relationship, for festivals, gifting means celebrating and sharing (Lee, 2011). People love to receive gifts over holiday seasons or festivals like Chinese New Year (Spring Festival) and Moon Festival. In the individual market, the main purpose of floricultural products purchases was gift giving. According to the survey from Li (2006), over half of the respondents purchased flower as a gift on festival or holiday, only 26.7% of respondents purchased flower as home decoration or self-consumption. In China, people prefer to send or receive meaningful gifts in festivals. Traditionally, each flower, plant and colour carries its own symbolic meanings, for instance, in Chinese New Year people are happy to receive bamboo potted plants because the symbolic meaning of bamboo is 'getting a promotion for career or getting more profit for business', also the red and yellow colour mean luck and happy, people appreciate to receive a gift which included red and yellow colour because its symbolize blessing for luck during the year (Lee, 2011; Xie, 2007).

Festivals consumption

Floricultural products consumption in China is generally concentrated in the festivals, such as Chinese New Year (Spring Festival), National Day and other major occasions. In such festivals always accompany with holiday and celebrating events. Thus, people are willing to purchase floricultural products as gift for their friends and families or as a festival atmospheric establishment (Xie, 2007). Generally, around the important festival like Chinese New Year (Spring Festival), the sales are focused on top-grade or high price potted plants (HY Consultancy, 2010).

Nowadays, the institutional consumptions still occupy the major market share of potted plant sector, the demands of high diversification and quality floricultural products has been increasing, especially the urban individual consumers. As the average income growth, consumers have more time to pursue their passion of personalized items and living style. In 2010, China Flower & Horticulture Magazine reported that in China, there have been established different kinds of distribution channels such as garden centre, horticulture counter in supermarket or chain shop, online florists. Individual consumers can purchase seed, potted plant, cut flower, fertilizer, medium, container and other materials in those locations (Zhou, 2010; Xu, 2010). HY Consultancy (2010) interviewed over 20 retailers in 6 Chinese cities, all interviewees mentioned that the floricultural products sales would be developing

rapidly and supermarket or chain shop would become of the major purchasing area instead of traditional market and florist.

In the big cities, the requests for diversification and quality of the potted plant are significantly higher than the past. Apart from the tradition packaging forms like plastic pot and wood pot, a new packaging form (Figure 10) combining different colour, styles and shape has appeared in the florists and garden centres. Young generation are enthusiastic about creating their potted plant-containers combination to show their personality (Zhou, 2010). According to the survey from HY Consultancy (2010), the popular colours among the different age of consumers are different. Middle-age people prefer red, while youths prefer white and purple, but yellow as the most disliked colour. This survey also interviewed the consumers about the popular type of floricultural products. In term of potted plant, Anthurium, Cyclamen, Phalaenopsis, Cymbidium and Poinsettia are the top five favourite potted plants. Water-grown plant (hydroponic) is a new type product in the recent year (Figure 10). It has been become popular in the potted plant market. Most interviewed retailers thought that water-grown plants much have a good market potential, because of its cleanness, elegance and high ornamental value. However, even water-grown plants has a big potential market in China, the inadequate distribution channel is an obstruction of promoting water-grown product in individual market.



Figure 10. Most popular potted and water-growing plants at large retailers (some examples) (HY Consultancy, 2010).

Chapter 3: Methodology

This chapter describes the methods employed in the thesis. The research areas and strategies are presented in the first section. The following sections explain the directions and content of cases study, consumer survey, also the data analysis and collection.

3.1 Research area and strategy

Evaluation of the potential profitability and opportunity for hydro-culture potted plant in China is the main goal of this thesis. The thesis combines two research strategies, namely the case study and the consumer survey, to collect the primary field data in order to answer the research questions. In addition, the related literatures such as books, scientific papers, official websites, documents and annual report from the government as the secondary source of data would be used. Through reading literatures which not only about the situation of potted plant industry in China and the Netherlands, but also reviewed the business culture, policies in potted plant sector in China.



Figure 11. The locations of Beijing, Macau and Taiwan. (Picture from Bonarriva and Weaver, 2011)

The research mainly conducted in the Netherlands and China by interviewing the related stakeholders, and implementing the consumer survey in China. The consumer survey conducted in the highly developed regions, Beijing (the Northern part of China), Macau (the Southern part of China) and Taiwan. The reason of choosing Taiwan is because the living style is similar to Beijing and Macau (education, tradition and consumption pattern) even Taiwan is not part of China (Figure 11).

3.2 Case study and interview

In the Netherlands, a face-to-face interview with the export manager Mr. Gerrit-Jan Tikken in Hydro Huisman bv was adopted. Hydro Huisman bv as the problem owner in this research, hence the interview focuses on the background information of Hydro Huisman bv, the current value chain of the domestic and international market, and also the perspective and expectation to Chinese market.

In order to obtain the latest information regarding the business conditions and cultures in Chinese potted plant sector. An e-mail interview was done with Mr. Tak-Yan Mak, the director of young plants business and turf business in Da Han Horticulture Dev. Co. (Da Han Group); and Miss. Chao-Yi Lin, the account manager (Asian market) of RijnPlant, the Netherlands.

Da Han Group engaged in horticulture imports, seedlings, landscape hardware selling in China. They has been cooperating with world famous horticulture firms like Paul Ecke (U.S.A.), the top three poinsettia production and breeding firm in the world; Koppe (the Netherlands), the world leader in Rieger Begonia, Klasmann (Germany), world leader in peat moss (DAHAN, 2012). RijnPlant is the largest Anthurium potted plant breeding company in the world, they have been investing in China more than 10 years. The content of interviews are present in Appendix 1 and 2.

3.3 Consumer survey

Based on the information from preliminary depth interview with the export manager in Hydro Huisman bv and desktop research, an internet questionnaire was developed. The internet questionnaire contained a series of statements asking for the personal information of consumers, awareness and attitude of potted plant purchasing behaviour (Appendix 3). The people who are living and working in Beijing, Macau, and Taiwan are mainly chosen as respondents for this survey. Additionally, the survey focuses on the age range from 25 to 35 years old and high educated people because according to the interview with Mr. Tikken, the people who have a stable income but do not have time to take care the potted plant are the main target group of Hydro Huisman bv. In order to represent the preference of the common citizen, the respondents are not included the agricultural background people.

English and Chinese versions of a questionnaire were provided and utilized during interviews. In order to ensure consistency between the Chinese and English versions of the questionnaire the English questionnaire was translated into Chinese by a native speaker with a sound technical knowledge of horticulture industry.

3.4 Data Analysis

In order to analyse the potential profitability and opportunity in Chinese potted plant market, different analysis tools such as chain mapping, SWOT and marketing 5Ps were used to analyse and summarize the qualitative data from the interview. The quantitative data analyzed by SPSS.

Chapter 4: Results and Discussion

By conducting several interviews, the chapter could be divided into two main parts. The first part of the chapter aims to present the information obtained from interviewees. According to the Appendix 1 and 2, the interviews have three directions: the current value chain of Hydro Huisman bv, the potted plant value chain in China, and the business conditions and cultures in China. The obtained information which related to the first two directions is mainly presented in Chapter 2: Literature Review. Therefore, in this chapter, as a supplement to the earlier chapter, presents the personal suggestions and opinions from Mr. Gerrit-Jan Tikken, Mr. Tak-Yan Mak and Miss. Chao-Yi Lin. However, some topics are discussed in more depth like the current situation of the potted plant sector in China, and furthermore provided insights with the business conditions and cultures in the Chinese floricultural market. The second part of this chapter presents and discusses the results of consumer survey which are included living style of the respondents in the selected areas, the purchasing behaviour and consumer preference of potted plant and hydro-culture potted plant.

4.1 Business conditions

In Europe, the floricultural consumption intention is less than the past due to the international financial crisis; this challenge brings serious impacts on the Dutch floricultural industry, for example, the Dutch flower auctions reported a decline in the supply quantities of green plants also the total turnover of floricultural products (FloraHolland, 2012; IPM, 2012). Hydro Huisman bv is a wholesaling firm in the Netherlands and also affected by the economic circumstance in Europe, therefore, accessing new market is a good strategy to main the market share in the world.

From the foreign perspective, the attractiveness of China is the low labour cost, large market potential, and the geographical advantage. China is face to East, Southeast Asia and Russia. China could be used as a production and distribution centre. The cost of exporting products from China to the Asian countries is cheaper than from Europe. In addition, China experiences a rapidly economic growth during the past two or three decades. The expenditure and average income have a significant increase (NBSC, 2012) particular after accession to the WTO. Currently, over 50% of population is living in the urban area, the urban dwellers more concern living quality and are willing to purchase luxury goods than the past. The consumption of floricultural products in the rural area is nearly zero whereas the East-Southern coastal cities in China are the main market of cut flower and potted plant (Li, 2006). Therefore, the coastal cities like Shanghai, Beijing and Macau are the potential market for the floricultural consumption.

Nowadays, Chinese government encourages the investments from foreign firms due to increase capacity in agricultural technological innovation and extension by maximizing the knowledge transfer from foreign to China. In the past, foreign companies was not allowed to own their companies and prohibited the direct investment in China, foreign firms were required that a Chinese firms should have a majority shareholdership in any companies activities. Currently, Chinese government

classifies industries into categories for which foreign investment is encouraged, restricted, or prohibited. For example, Chinese encourage the foreign direct investment in the agriculture related area that enhances productive capacity or technology in the rural area also aims at reduce the pollution. Restrictions apply to the investments that related to the conventional seed development, breeding, and production of new varieties of crops etc, these kinds of investments must be through a joint venture under the control of a Chinese partner. Finally, the direct investment related to genetically modified plants and food are fell into the category of prohibition (Bonarriva and Weaver, 2011).

In the horticultural sector, there have three main types of foreign investment in China: Direct investment like Anthura; Joint venture like the cooperation between Belgian company Deroose plants and Shanghai flowerport; and Finding agent likes Da Han Group as the agent of Paul Ecke in China (Mak, 2012). However, foreign firms prefer to cooperate with the local firms rather than establish their own company in China at the early stage of investment. The reason is China is definitely a complex country in the area of horticulture; foreign firms are very difficult of implement the supply chain management to be the results of poor communication, lace of commitment and trust, opportunistic behaviour among the chain actors (Collins et al., 2012).

'The major difficulties included unfamiliarity with Chinese law, capital inflow and outflow controlling by the government, imbalance marketing information, the credibility of partnership, the misunderstanding of the preference in Chinese market. Anyway, finding a reliable partner is the most import task that foreigners have to accomplish in China.' Mr. Mak said.

Foreign firms can get the benefits, like the existing networks, experiences and skills through establishing the cooperative relationship with local firms, which is now a prominent way to enter Chinese market and achieve a competitive advantage (Luo, 2002). Therefore, Hydro Huisman bv should take a conservative approach likes other foreign firms to identify a reliable local firm as an agent or partner. The prerequisites of the Chinese local firm that should be already have high reputation, networks and experiences of selling potted plant in China.

Moreover, Hydro Huisman bv have to keep the supply chain as short as possible to reduce the uncertainty and risk. Because of this reason, Hydro Huisman bv would achieve better control for dealing with Chinese firms who supply directly to large retailers, rather than dealing with importers that they would resell to the primary wholesaler, and then to the secondary wholesalers.

Nowadays, Hydro Huisman bv has the capacity for year round supplying the hydro-culture products to the market, in order to achieve this goal, Hydro Huisman bv import plant material from other countries every two months. After arrival, plant material would be removed from the medium and transplanted into the culture pot with clay pebbles. Finally, the finished hydro-culture potted plant would be relocated under the shade net for acclimating before selling.

***'The selling price is fixed even export to other countries. Considering the different consumers' preference of potted plant like colour, species and type in Asian Market. Exporting finished plant to Asia is not a good idea, in addition the production cost of potted plant in Asia is lower than in Europe. The competitiveness of exporting hydro-culture potted plant to Asia is very low. Therefore, we only export hardware such as water indicator, culture pot and container to Taiwan, Beijing and Singapore.'* Mr. Tikken said.**

In China, most of the local farmers have sufficient capacity (facility, knowledge and experience) for supplying high quality products to domestic market (Mak, 2012). The competitiveness of exporting finished potted plant from Europe to China is very low because the wholesaling price after exporting is higher than the local products in China. Moreover, the Chinese customers are familiar with the varieties and types of local products. Hence, exporting hardware to China and combining with the local high quality potted plant is a potential way to reduce the risk for Hydro Huisman bv. Water-grown (hydroponic) plants are already popular in China because of the advantages like clean, high diversification (combinations between plants and containers) and easy to manage (HY Consultancy, 2010).

***'Water-grown plant is very popular in China and estimate that it has a big potential market. But the problem is until now institutional consumption still occupies the largest market share, therefore, if you want to expand the hydro-culture potted plant in China. First you have to increase the purchasing intention of retailers and consumers by showing them high quality and potential products, because the increasing demand can motivate the cooperation between wholesalers and producers in supplying high quality of hydro-culture potted plant.'* Mr. Mak said.**

Nowadays, institutional consumption has the largest market share in China, wholesalers prefer to sell the products to landscape and plant hiring firms due to the relatively simple and uniform requirements (same species and size) than the individual customers. This phenomenon causes a problem as shown in Chapter 2.2.1 (Figure 9), farmers hardly to obtain the marketing information from the individual market because the information flow is controlled by wholesalers. Furthermore, the factors like inadequate consistent standard, face-to-face trading mechanism, insufficient convenient information source caused farmers rely on wholesalers to market and sell their products. These factors strongly stimulated the trend toward to institutional-oriented and low diversification of production. Consequently, the combined effect of these factors, as a vicious circle (Figure 12), caused a negative influence on the individual market development.

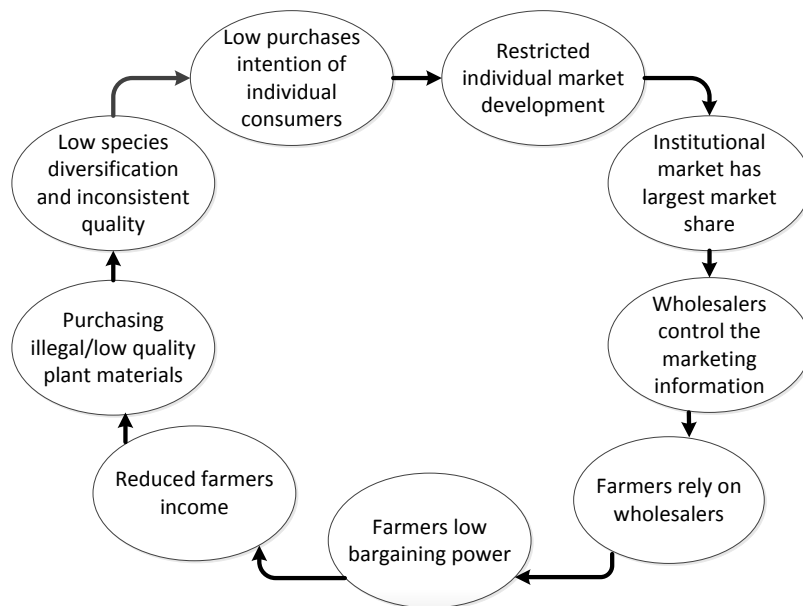


Figure 12. The vicious circle in Chinese potted plant sector.

However, potted plant sector hardly breaks away from this vicious circle as long as the individual market is still in the immature stage. According to the survey form HY Consultancy (2012), most consumers only purchase floricultural products 2 to 5 times a year, as the average income and expenditure growth; it means that a lot can be gained from increasing the individual consumption. Zhou (2009) pointed out that the major impediment of the potted plant sector development is until now still no formation of mature and convenient platform for the individual consumers to purchase the high quality products and to improve their ability and knowledge to distinguish the different level of products.

4.2 Business cultures

As mentioned before, Hydro Huisman bv has their own nursery in Huissen/Bemmel. Most of the time, the buyers in Tropical countries selected and exported high quality plant materials, especially the tropical species, to the Netherlands while Hydro Huisman bv also purchases the common species from Dutch Flower Auctions. Mr. Tikken mentioned that the species which are selected by Hydro Huisman bv have already available in the market. The reason is most consumers buy potted plants on a regular basis and they buy what they are familiar with. Among the various species, tropical foliage plants are the main products they sell for their long shelf life. However, Hydro Huisman bv is a wholesaling company, they purchase the existent species and combine the hardware like water indicator, containers which purchase from other countries. Therefore the whole hydro-culture product (plant and hydro-culture system) is not protected by the intellectual property rights law.

Counterfeiting or self-propagation is very common in China, this kind of problems frequently occur in all industry areas and not only restricted to luxury goods (Devonshire-Ellis et al., 2011). In floricultural sector, most of the Chinese farmers, especially small scale farmers, purchase self-propagated plant materials in order to reduce the production cost, even the quality is not guaranteed. According to Mr. Mak experiences, it is pointless to prevent infringing activity or solve it by using law in an environment that is characterized by uncertainty and a relatively weak legal framework.

In addition, using legal channel is a relative high cost solution regarding spending time and difficult to collect evidences. In China, most firms work almost entirely based on *Guanxi* and relationship (Millington et al., 2006). Mr. Mak emphasized the importance of long-term relationships with other chain actors. It seems that if you try to ignore/break the relationships, it can become difficult for accessing the relationship networks again. Thus, foreign firms should learn how to solve the counterfeiting or self-propagation problems while try to maintain the long-term *Guanxi* and relationship with other chain actors.

'Sign an agreement with farmers to ensure that if the self-propagated problem happens, farmers cannot purchase high quality plant materials from Da Han Group in the next year' Mr. Mak said.

Establishing the *Guanxi* network and build up the mutually profitable long-term relationship is a crucial step in China. Da Han Group is a professional young plant company and agent of several foreign horticulture firms. Normally, they sign an agreement with famers, the content of the contract included Da Han Group will interrupt the high quality cuttings/seedlings supply if the self-propagated problem happens in the farm. On the other hand, Chinese farmers are looking for a foreign partner or supplier contribution like the new varieties, organisational reputation, international marketing expertise, as well as advance production techniques (Luo, 2002). Thus, due to the benefits get from the professional young plant company, farmers are likely to accomplish the criteria and rule from their supplier.

Furthermore, foreign firms have to establish their reputation or *Xinyong* in China. Chinese prefer to deal with those who have high *Xinyong* and avoid those with little *Xinyong* in order to avoid losses. Miss. Lin as an account manager in the largest Anthurium potted plant firm - RijnPlant. She mentioned that establishing a *Xinyong* and *Guanxi* network are very important in China. Even she finds out the self-propagated issue happens in some farmers, negotiation is the only way she can do with the farmers. At the same time, trying to maintain the *Guanxi* network during negotiation, because the larger one's *Guanxi* network is, the more powerful the person become. Nothing can be done in China without *Guanxi*.

On the other hand, providing extra services like after-sales services, farms visiting, technical support or other adding value activities, is a good strategy to prevent self propagation. Such extra services have two main advantages. Firstly, this is a better

way to eliminate the counterfeiting or self-propagated problems, because farmers want to get these extra supports from suppliers in order to increase their income by selling high quality products. Hence, farmers are willing to fulfil the legal rule due to the extra services provided by supplier. Secondly, according to the suggestions from Devonshire-Ellis et al (2011), continuous monitoring should be part of preventive protection measures in order to find counterfeiters at an early stage and to keep the damage at lowest level possible. Besides the monitoring function, visiting farms regularly also can improve the relationship between farmers and suppliers.

'Every year I have to spent a lot of time to visit different customers in China to ensure that they are satisfied with our products, at the same time this also is a good way to monitor the farmers. Please keep in mind, the cost of fighting with infringers, the damage to the brand and market share would be higher, if infringers have enough time to produce the counterfeited products.' Miss. Lie said.

Therefore, Hydro Huisman bv have to familiarize themselves with Chinese business cultures such as providing extra services like indoor landscaping advices, visiting customers regularly and providing latest information of new products. Hydro Huisman bv is a wholesaling companies and already have over 30 years experiences for cultivating, selling and designing of the hydro-culture products. Transplanting soil-grown plants into hydro-culture and rooting in water is the crucial step for having a high quality hydro-culture plant. Zhou (2010) noted that in China even water-grown plants are very popular, but most consumers are misled deeply due to the low quality of water-grown plants. The reason is some suppliers just soak the plant into the water and sell it to the consumers immediately; those suppliers do not have enough knowledge and skills to produce high quality hydro-culture potted plant. Therefore, the cultivation skills and experiences of hydro-culture products can help Hydro Huisman bv to establish a *Xinyong* and irreplaceable role in the Chinese potted plant sector.

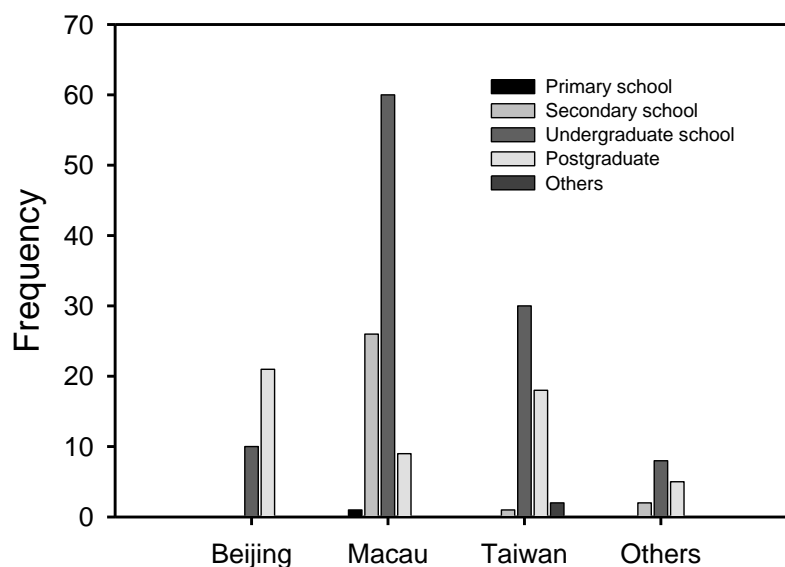
4.3 Consumers' preference of potted plant purchasing in China

The survey was conducted among a total of 193 citizens in Beijing, Macau, Taiwan, and the other parts of China (Hong Kong and Zhuhai). All respondents could not have agricultural background in order to obtain the data which can represent the normal citizens. The questionnaire was designed in two parts: background information of consumers and consumers' preference of potted plant. Descriptive characteristics of the sample are given in Table 4, 5 and Figure 13, 14, 15. Among these respondents, the demographic statistics revealed that the percentage of female respondents is 58%. In term of the region, 50% of the respondents are living in Macau, the proportion of respondents living in Beijing and Taiwan are 16% and 26%, respectively.

Table 4. Demographic profile of the respondents.

Region / Gender	Male	Female	Total
Beijing	11	20	31
Macau	47	49	96
Taiwan	19	32	51
Others	4	11	15
Total	81	112	193

Information on educational level of the respondents by regions is presented in Figure 13. Almost 80% of respondents are high educated, which included 50% and 28% of respondents have bachelor degree and graduate degree, respectively, whereas only 1 respondent the education level is primary school level. Figure 14 shows the average time spent indoors by regions. Most of the respondents spend more than 9 hrs indoors, while the groups of 13 to 16 hrs and >17hrs constitute 24% and 39%, respectively. According to the interview with Mr. Tikken, he mentioned that the target group of Hydro Huisman bv are the young generation and most of them are highly educated and have stable income. Klepeis et al (2001) pointed out that the quality of the indoor environment had become a major health consideration, since urban-dwellers spent about 80% to 90% of their time indoors. Hence, it caused consumers increasingly consider the cleaning air environment as an important part of their health life. Because of these reason, the survey is mainly conducting in the group of 25 to 30 years old and high educated citizens.

**Figure 13. Level of formal education of respondents by region (n = 193).**

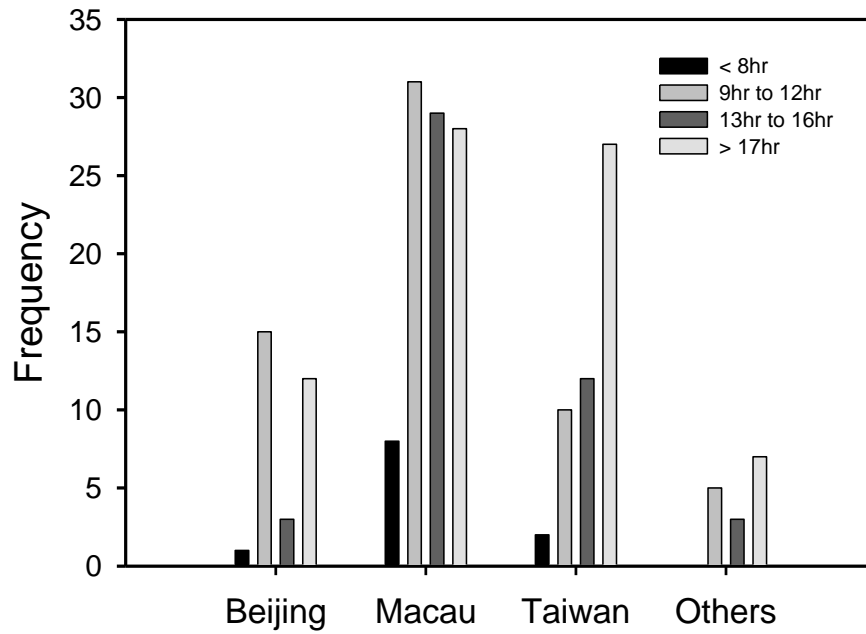


Figure 14. Average time spent indoors per day by region (n = 193).

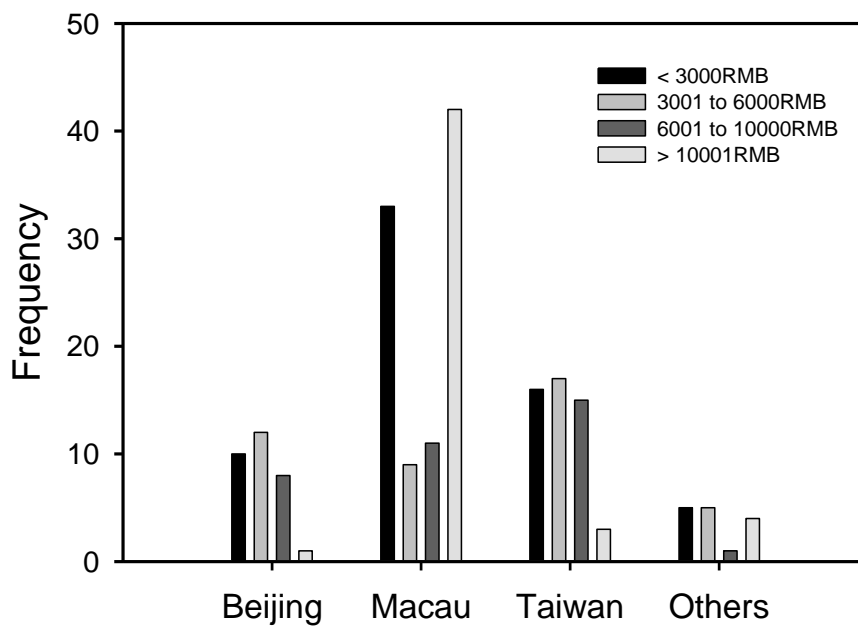


Figure 15. Average monthly income of respondents by region (n = 193).

Apart from Macau, the average monthly income of the respondents who are living in Beijing and Taiwan were mostly less than 10000RMB, whereas 44% of Macau respondents whose average income is higher than 10000 RMB. In term of the average income in Macau, the proportion of respondents with less than 3000RMB is higher than the groups of 3001 to 6000RMB and 6001 to 10000RMB. Table 5 shows the average age of respondents by average monthly income according to regions. The data indicates that the average age with the group less than 3000RMB in Macau is significantly lower than the other groups in Macau, also lower than other regions. Combining the results of Figure 15 and Table 5, 35% of the Macau respondents fell in the category of < 3000RMB, because the average age of < 3000RMB group is 20 ± 1 . Hence, it estimates that the pick in the < 3000RMB group is because such respondents is not employed and still studying in school.

Table 5. The average age of respondents by average monthly income according to region (n = 193).

Region / Income	< 3000 RMB	3001 to 6000RMB	6001 to 10000RMB	>10001 RMB
Beijing	25 ± 1^z	28 ± 2	32 ± 2	29 ± 3
Macau	20 ± 1	25 ± 4	29 ± 3	27 ± 1
Taiwan	25 ± 1	27 ± 1	28 ± 1	24 ± 2
Others	26 ± 1	33 ± 2	36^y	28 ± 1

^z Mean \pm SE

^y Sample size < 3.

In the second part of survey, respondents were asked about their experience of purchasing potted plant (Table 6). The results show that most of respondents (81%) are willing to purchase plant to decorate their house and the 66 % of the whole respondents have the experiences of purchasing potted plant. It means that near 20% of the respondents who have potted plant purchasing intention, never bought potted plant before. According to Zhou (2009), the inadequate and inconvenient distribution channel in Chinese potted plant sector was the major impediment to the individual market development. Hence, the reason why these 20% respondents never bought potted plant is that they cannot easily find high quality and diversified potted plant in the market.

In term of the frequency of purchasing potted plant, 92% respondents buy potted plant 1 to 3 times one year and over half of them would buy potted plant in the traditional festivals (Table 6). HY Consultancy (2010) interviewed the citizen in 6 Chinese cities, the results indicated that potted plant purchasing frequency of the respondents was mostly fell in the category of 2 to 5 times a year, which suggested a relationship with the main Chinese festivals. In China, most people love to receive gifts in special occasions like Chinese New Year. People prefer to receive meaningful gifts, also red and yellow colour are meaning 'getting happy and luck into your home' (Lee, 2011). Hence, following the Chinese tradition to sell the meaningful products, combining with special colour containers and packaging which seem a good marketing strategy. On

the other hand, the purchasing frequency is quite low if compared with Western countries, it means that there has a huge potential market in the individual consumption if someone can raise the purchasing intention of the consumers.

Table 6. Respondent response on the potted plant purchasing.

Question	Ans.	Freq.	%
Are you willing to buy plants to decorate your house?	Yes	156	81%
	No	37	19%
Have you ever bought potted plant?	Yes	127	66%
	No	66	34%
How often do you buy potted plant?	1 to 3 times a year	117	92%
	4 to 6 times a year	7	6%
	7 to 9 times a year	0	0%
	>10 times a year	3	2%
Do you buy the potted plant in the traditional festival?	Yes	71	56%
	No	56	44%

Figure 16A shows the reasons of purchasing potted plant and reasons of not purchasing potted plant. Decorate the environment is the most important reason for purchasing potted plant, with a frequency of 117 on 127, followed by physiology health benefits (104/127), and eliminating pollutants in the air (85/127). As discussed before, nowadays people spend about 80% of their time indoors; hence the quality of the indoor environment has become a major health consideration. Numerous of scientific papers showed that indoor plants have a good air pollutants removal capacity and positive impact on our health and tension relief (Dravigne et al., 2008; Lorh et al., 1996; Park and Mattson, 2009; Wolverton and Wolverton, 1993). HY Consultancy (2012) showed that the main purposes of individual plant purchasing in the 6 selected Chinese cities were home decoration (43%), for festival gifts (33%), and for air purification (31%). It means that people increasingly consider the indoor plant as an important part of their interior.

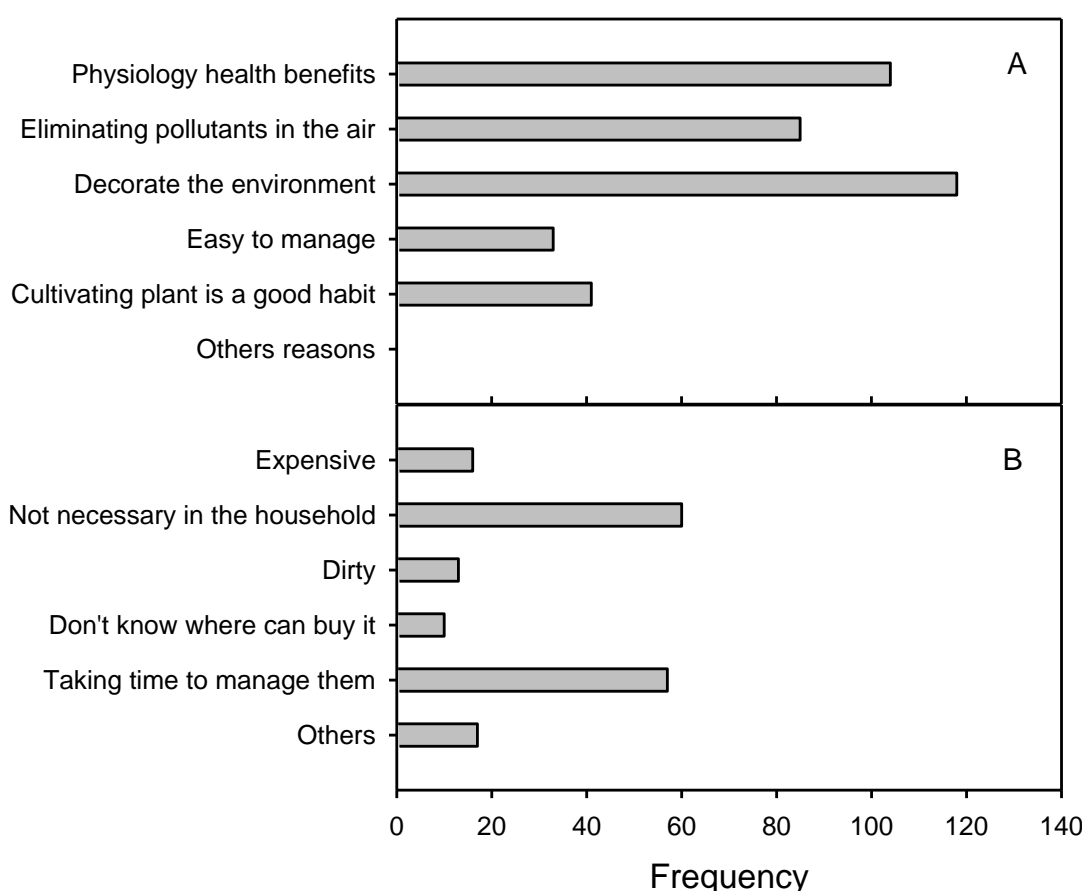


Figure 16. The reasons of purchasing potted plant, n = 127 (A) and reasons of not purchasing potted plant, n = 66 (B). (A) and (B) are multiple response.

The 12% of interviewed consumers in HY Consultancy (2012) have never bought floricultural products, the mainly reasons are: not necessary to buy flowers or plants; the prices are too high; they do not know how to take care of the flowers and plants. There has the similar trend with our research (Figure 16B), the categories of not necessary in the household and taking time to manage comprised 60/66 and 57/66 of respondents, respectively. In the question 20, respondents were also asked the first priority of reason why did not purchase potted plant. The results shows that taking time to manage was the most significant attributes.

Figure 17 shows the favourite place of purchasing potted plant and consumers' preferences. As for the traditional place of purchasing potted plant, street vendor, florist shop and tradition market have the high proportion, with a frequency of 80/127, 63/127 and 49/127 (Figure 17A). Supermarket as a very important selling platform in the city, but only has 15/63 respondents select supermarket as the favourite place for purchasing potted plant. In the category of others, only several respondents mention that they purchase potted plant in garden centre. HY Consultancy (2010) noted that flower shops and flower market were still the favourite locations for the large majority

of consumers. In the near future, buying flowers at supermarkets, garden centre or on-line shop are gradually emerging in the market as a new way of purchasing. Therefore, establishing a convenient platform to the consumers for purchasing potted plant is a good strategy to expand the individual market.

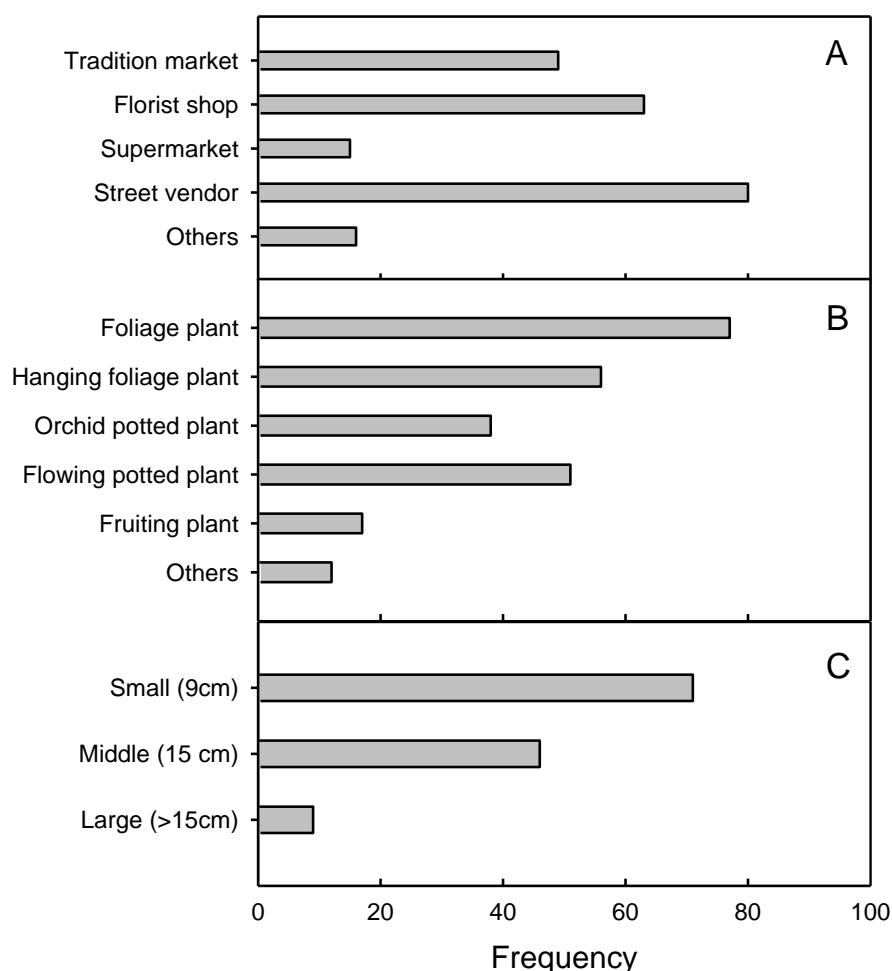


Figure 17. The favourite place of purchasing potted plant (A). Purchasing preferences of potted plant species (B) and size (C). (A) and (B) are multiple response, n = 127.

Foliage plant and hanging foliage plant are the most favourite species (Figure 17B), with a frequency of 77/127 and 56/127, followed by flowering potted plant (51/127). The preferred pot size is 9cm, while only 9 respondents prefer purchase large size potted plant. In Beijing, Macau and Taiwan, the living area is very small, people prefer to buy small size of potted plant and put them on the table or in the concern of their house as a furniture (Zhou, 2010).

All respondents were asked to specify their perspective or purchasing habits of hydro-culture potted plant (Table 7). Only 39% of respondents know hydro-culture potted plant. After reading the article about the advantages of hydro-culture potted plant (Appendix 3), The proportion of respondents are willing to buy or pay extra money for purchasing hydro-culture potted plant are 78% and 64%, respectively. According to the results, hydro-culture potted plant has a big potential in the individual market. As expected, easy to manage, clean and odourless are the main reasons also are the main advantages of hydro-culture system which increase the purchase intention of individual consumers (Figure 18).

Table 7. Respondents response on the hydro-culture potted plant.

Question	Ans.	Freq.	%
Are you familiar with hydro-culture potted plants?	Yes	76	39%
	No	117	61%
Do you think the advantages of the hydro-culture potted plant are important?	Yes	151	78%
	No	42	22%
Are you willing to pay more money to buy these hydro-culture potted plants?	Yes	123	64%
	No	70	36%
What is the reasonable price for you to purchase a hydro-culture potted plant? (compare to a traditional potted plant)	< 5% more	21	18%
	5% more	37	30%
	10% more	35	28%
	15% more	14	11%
	20% more	14	11%
	>20% more	2	2%

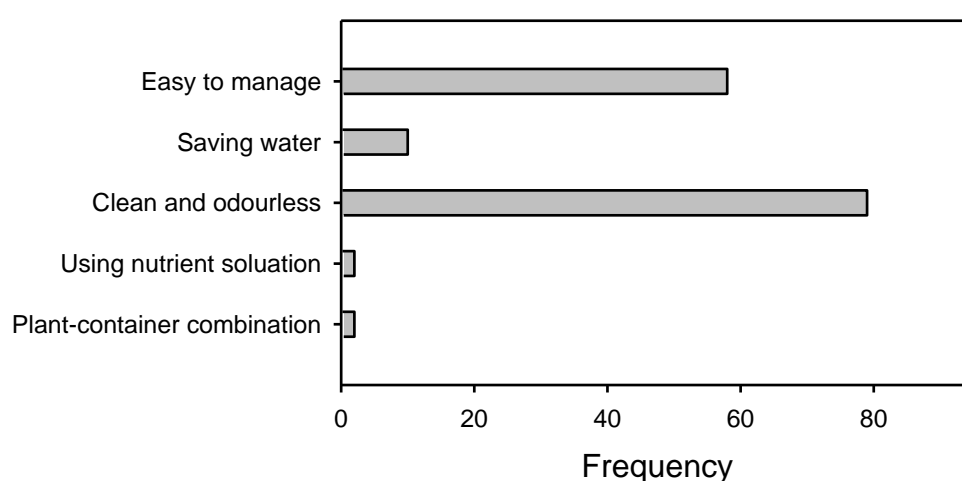


Figure 18. The most concerned advantages of hydro-culture potted plant from the respondents (n = 151).

Figure 19 shows that most Beijing respondents are only willing pay <5% and 5% more to purchase hydro-culture potted plants, whereas as the high amount of respondents in Macau and Taiwan are willing to pay 5% to 10% more. It estimates that the difference in paying extra money to purchase hydro-culture potted plant among various regions is because the average income in Beijing is lower than others (Figure 15).

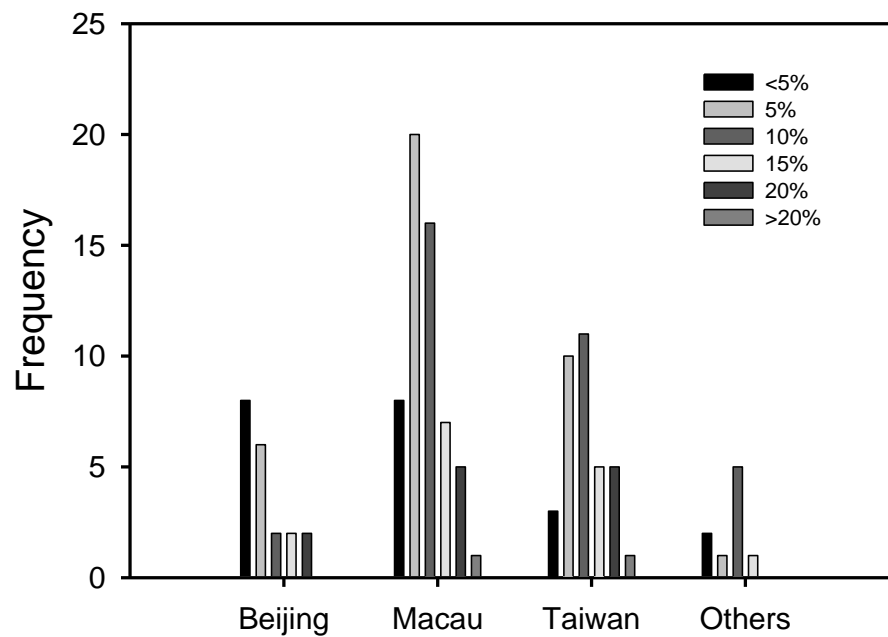


Figure 19. Reasonable price for the respondents to purchase a hydro-culture potted plant by different location

Chapter 5: Conclusions

Based on the results and discussions, SWOT is used in this chapter as a conclusion to present the strengths and the weakness of Hydro Huisman bv, also the opportunities and threats of Chinese potted plant sector.

Table 8. SWOT analysis of Hydro Huisman bv invests in China

Internal	
Strengths	Weakness
<ul style="list-style-type: none">✓ Over 30 years experiences of cultivating, selling and designing hydro-culture potted plant✓ Already has exporting experiences to Asia countries✓ High diversification of products✓ Hydro-culture potted plant are suitable for indoor conditions	<ul style="list-style-type: none">✓ Unfamiliar with Chinese potted plant market✓ Whole hydro system is not under the protection of the intellectual property rights law
External	
Opportunities	Threats
<ul style="list-style-type: none">✓ Average income and expenditure growth caused the demands of high quality and diversification of floricultural products increased (both institutional and individual market)✓ Water-grown plant is already popular in China✓ People are willing to pay higher price for purchasing hydro-culture potted plant	<ul style="list-style-type: none">✓ Counterfeiting, the common issue in all industry area✓ Complex business conditions and cultures✓ Insufficient market information system

Hydro Huisman bv is active in the cultivation and sales of hydro-culture potted plant and accessories since 1975. The rich experiences of cultivating and exporting hydro-culture products to inter-Europe and some Asian countries like Taiwan, Korea and Singapore, that makes it easier for the company to access new market – China. China has become the largest potential market of horticultural products due to the incredible income and expenditure growth, especially in the East-Southern coastal cities.

Nowadays, institutional consumption (larger buyers such as hotels, hospitals, shopping centres etc.) maintains the largest market share (85%) in the current Chinese potted plant sector. The plant hiring and landscape firms are the major retailers in the institutional market, they provide the labour intensive services like maintaining, watering and removing the wilting potted plant regularly for their customers. Therefore, there has been a huge demand for high quality and watering automatically potted plant. In China, water-grown (hydroponic) plant is already popular in the individual market. Based on the consumer survey, people spend over 70% time indoors; over 80% respondents are willing to purchase potted plants, physiology health benefits, eliminating air pollutants and decorate the environment are the major purposes of purchasing potted plant. It means that consumers increasing the concern for the living environment. On the other hand, spending time to manage is the main reason why respondents do not purchase potted plant. According to these information, the advantages like cleanliness, odourless and easy to manage make hydro-culture potted plant become a potential products in both institutional and individual market.

However, the complex business conditions and cultures, insufficient marketing information source are the major impediments for the foreign firms to approach the Chinese market. Business in China is built largely on personal relationships, identify reliable local firms as a partner or agent who are familiar with and already have had networks in Chinese potted plant sector and keep the supply chain as short as possible are the main strategies to reduce the uncertainty and risk. Counterfeiting is a common problem in China. The whole hydro system is not under the protection of the intellectual property rights law. Therefore, the hydro-culture potted plant cultivation skills and other adding value activities like technical advices can help Hydro Huisman bv establish a irreplaceable role in China which has a positive impact on eliminating the counterfeiting problem. And to build up a relationship with other chain actors.

Chapter 6: Recommendations

The recommendations presented in this chapter are mostly depend on the interviews and consumer survey. Therefore, the whole recommendations would be divided into short terms as the strategies of approaching Chinese market while long term recommendations provide the suggestion for further development of Hydro Huisman bv in China. Table 9 showed the marketing 5'P which related to the promoting strategies of hydro-culture potted plant in China.

6.1 Short term recommendations

1. The customers in East-Southern coastal cities are the major target groups due to their high income and expenditure.
2. Identify a reliable local firm as a partner or agent to sell and market hydro-culture products through their networks and relationships. At the same time, establishing *Xinyong* and *Guanxi* network with other local chain actors.
3. Keep the supply chain as short as possible to reduce the uncertainty and risk. For instance, dealing with Chinese firms who supply directly to large retailers, rather than dealing with importers that they would resell to the primary wholesaler, and then to the secondary wholesalers.
4. Use the positive reputation of the Netherlands by promoting the products at the Hortiflorexpo or exhibitions in China.
5. Set up a display area in the retailer's place like supermarket, flower market to show the high quality hydro products to the chain actors also the consumers. The display area is a platform to maintain relationships with customers and also can obtain the feedback and market information.

6.2 Long term recommendations

1. Motivating wholesalers and farmers participate in individual market by showing the huge demand for hydro-culture potted plant consumption.
2. Follow the Chinese tradition and festival, consumers' preference in China to develop specific products. For example, providing the red containers and meaningful potted plant like bamboo in Chinese New Year.
3. Identify florist or other qualify retailers to label a special brand name like Hydrohome to ensure consumers can receive high quality products and services. Providing small instruction booklets to chain actors and consumers on how to handle hydro-culture potted.

Table 9. Marketing mix 5 P's of hydro-culture potted plant.

Product	Hydro-culture potted plant
Price	According to the result of consumer survey, people are willing to pay 5% to 10% higher than normal potted plant price to purchase hydro culture potted plant (Figure 19).
Place	Focusing on the florists, supermarkets, flower markets, garden centres in East-Southern coastal cities of China. Because the average income and expenditure in those cities are higher (Bonarriva and Weaver, 2011)
Promotion	<ul style="list-style-type: none">- Participating in Hortifloorexpo or exhibitions in China- Set up a model display area- Identify qualify retailers to label a special brand name- Develop specific products according to the Chinese traditions and consumers' preference- Providing small instruction booklets
People	<ul style="list-style-type: none">- Institutional market Shopping mall, hospital, hotel, bank and other indoor environments.- Individual market High educated consumers High income consumers

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Appendix 1: The check list for the export manager in Hydro Huisman bv

The background information of Hydro Huisman bv

- ✓ The history of Hydro Huisman bv
- ✓ The organisational structure of Hydro Huisman bv
- ✓ What kind of products Hydro Huisman bv is selling?
- ✓ What are the production/processing schedule of different kind of products?
- ✓ What are the production cost / selling price of different kind of products?
- ✓ The marketing strategy - (i.e. How Hydro Huisman bv makes the products different from other potted plants producers?)
- ✓ What type of consumers Hydro Huisman bv is focusing on? How about future?
- ✓ Future development (accessing new market/developing new products)

The current value chain in Hydro Huisman bv

- ✓ The input supplier (Where/what kind of products/logistic)
- ✓ What is the function of the Dutch auction in this chain?
- ✓ What is the relationship (partnership or competition) between Hydro Huisman bv and Lechuza/Leni, because they sell the same products?
- ✓ Supporters and the functions in this chain
- ✓ What are the problems of the current value chain?
- ✓ Local chain
- ✓ How does Hydro Huisman bv deliver the products to customers?
- ✓ Quality and quantity requirement from the market
- ✓ Information flow – i.e. How can Hydro Huisman bv get the information from different actors/consumers? What type of information Hydro Huisman bv need?
- ✓ Marketing strategy
- ✓ Export chain
- ✓ What type of strategy are you following in doing business with different countries (other European countries, Asian countries, Middle East countries)?
- ✓ The experiences of exporting to Asian countries
- ✓ How does Hydro Huisman bv deliver the products to customers?
- ✓ Quality and quantity requirement from the market
- ✓ Information flow – i.e. How can Hydro Huisman bv get the information from different actors/consumers? What type of information Hydro Huisman bv need?
- ✓ Marketing strategy

Chinese market

- ✓ Do you have any experience of doing business with Chinese firm?
- ✓ If yes. What is the main problem of doing business with Chinese firm?
- ✓ What is the strategy Hydro Huisman bv wants to do solve those problems?
- ✓ Does Hydro Huisman bv prefer to find a Chinese importer or landscape firm to be your business partner, why?
- ✓ Does Hydro Huisman bv feel interesting about the consumer preference in China?
- ✓ If yes, what are the consumer preferences you want to know?

Appendix 2: The check list for the director of Da Han Group

- ✓ What is the current situation of Chinese potted plant market?
- ✓ What kind of foreign horticulture companies are doing business with Da Han Group?
- ✓ What are the advantage and disadvantage of foreign horticulture companies doing business in China?
- ✓ What are the problems of the foreign horticulture companies need to face and solve in China?
- ✓ What are the strategies of the foreign horticulture companies when they want to do business in China?
- ✓ What is the perspective of the Chinese government on the foreign horticulture companies doing business in China?
- ✓ What is the perspective of the Chinese consumers on the foreign products?

Appendix 3: Questionnaire for the Chinese consumers (English version)

Dear respondents,

I am the master students at Van Hall Larenstein, part of Wageningen UR. The purpose of this survey is to provide the information of the consumers' preference to the hydro-culture potted plants. Such results can help the Dutch horticulture firm - Hydro Huisman bv to establish a sustainable hydro-culture potted plant value chain in China.

This questionnaire included two part, first part is background information of consumers (No. 1 to 8), second part is consumers' preference of potted plant (No. 9 to 25). You would spend 3 to 5 minutes to fill in this questionnaire. Thank you for your cooperation!

Contact e-mail: samfish1216@yahoo.com.hk

Background information of consumers

1. Location:
☐ Beijing ☐ Macau ☐ Taiwan ☐ Others _____
2. Gender: ☐ Male ☐ Female
3. Age: _____
4. What is the highest level of formal education that you have completed?
☐ Primary school
☐ Secondary school
☐ Undergraduate school
☐ Postgraduate school
☐ Others _____
5. Do you do the shopping for your household?
☐ Yes ☐ Sometime ☐ No
6. How many hours do you usually spend indoors per day?
☐ < 8 hr
☐ 9 hr to 12 hr
☐ 13 hr to 16 hr
☐ > 17 hr

7. Are you willing to buy plants to decorate your house?

- ☐ Yes ☐ No

8. The monthly average income:

- ☐ < 3000 RMB
☐ 3001 to 6000 RMB
☐ 6001 to 10000 RMB
☐ > 10001 RMB

Consumers' preference of potted plant

9. Have you ever bought potted plant? (if no, please go to question 19)

- ☐ Yes ☐ No

10. If yes, how often do you buy potted plant?

- ☐ Once to three times a year
☐ Four to six times a year
☐ Seven to nine times a year
☐ More than ten times a year

11. What do you see as the advantages of potted plants? (multiple responses)

- ☐ a Physiology health benefits
☐ b Eliminating pollutants in the air
☐ c Decorate the environment
☐ d Easy to manage
☐ e Cultivating plant is a good habit
☐ f Others reasons _____

12. Among the answers in question 11, which one is the most important one (a to f)

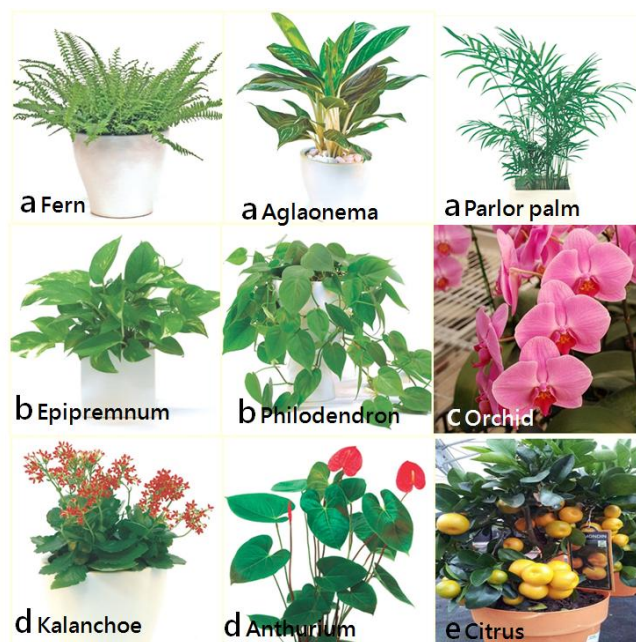
13. Where do you buy the potted plants? (Choose the major one)

- ☐ a Tradition market
☐ b Florist shop
☐ c Supermarket
☐ d Street vendor
☐ e Others _____

14. Among the answers in question 13, which one is the most important one (a to e)

15. What kind of potted plant do you usually purchase? (Choose the major one)

- ☐ a Foliage plant such as Fern, Aglaonema and Parlor palm
- ☐ b Hanging foliage plant such as Epipremnum and Philodendron
- ☐ c Orchid potted plant
- ☐ d Flowering potted plant such as Kalanchoe and Anthurium
- ☐ e Fruiting plant such as citrus
- ☐ f Others _____



Part of the photos from: Taiwan EPA < House Plants Purify Indoor Air >

16. Among the answers in question 15, which one is the most important one (a to f)

17. What size of potted plant do you prefer to buy? (Diameter of the pot)

- ☐ Small (9 cm; half-length of an adult hand)
- ☐ Middle (15 cm)
- ☐ Large (> 15 cm)

18. Do you buy the potted plant in traditional festival such as Chinese New Year?

- ☐ Yes ☐ No

19. Continued question 9. If no, why not?

- ☐ a They are expensive
- ☐ b Potted plant is not necessary in the household
- ☐ c They are dirty
- ☐ d I don't know where I can buy it
- ☐ e It takes time to manage them
- ☐ f Others _____

20. Among the answers, which one is the most important one (a to f) _____

21. Are you familiar with hydro-culture potted plants?

- ☐ Yes ☐ No

Please look through the following article.

Hydro-culture is a cultivating system of growing plant without soil. The hydro-culture potted plants in Hydro Huisman bv are made up by several parts: plants, water level indicator, planter, culture pot, clay pebbles and water reservoir. Compare with the normal potted plant, the main advantages of hydro-culture potted plant are shown below:

- A. Easy to manage: water indicator shows exactly when to water
- B. Saving water and watering automatically
- C. It's clean, odourless and free from soil-related pests and diseases because it uses soil-free medium
- D. Using nutrient solution, plant can uptake the nutrients efficiently
- E. Plant can combine with different kind of container (ceramic, metal, synthetics, Adding value to plants by presenting them with the addition of different kind of container (ceramic, metal, synthetics, wood).

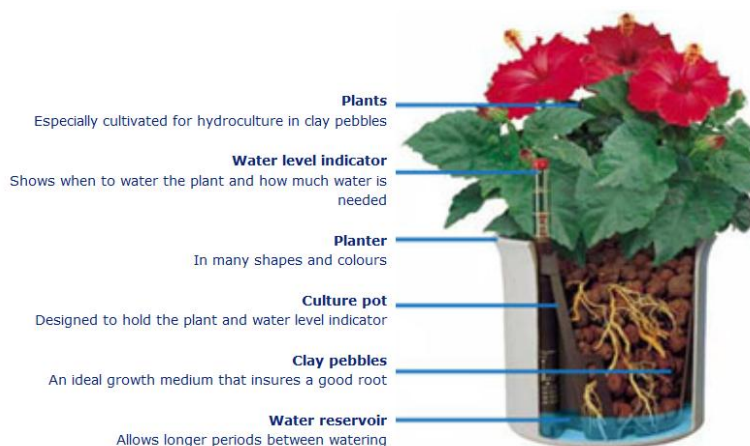


Photo from <http://www.hydrohuisman.nl/index.cfm>

22. Do you think the advantages of the hydro-culture potted plant are important?
☐ Yes ☐ No
23. If Yes, which one is the most important one (a to e) _____
24. Are you willing to pay more money to buy these hydro-culture potted plants?
☐ Yes ☐ No
25. What is the reasonable price for you to purchase a hydro-culture potted plant (compare to a traditional potted plant)?
☐ < 5% more than a traditional potted plant
☐ 5% more than a normal potted plant
☐ 10% more than a normal potted plant
☐ 15% more than a normal potted plant
☐ 20% more than a normal potted plant
☐ >20% more than a normal potted plant

Thank you for your time and cooperation!

- The End -

Appendix 4: Questionnaire for the Chinese consumers (Chinese version)

親愛的受訪者，您好：

本人為就讀於荷蘭瓦罕寧恩大學(Wageningen UR)-萬豪勞倫斯坦分校(Van Hall Larenstein)園藝生產鏈管理碩士班的學生。本問卷希望透過調查一般民眾購買盆栽植物的消費習慣及對水耕盆栽植物(Hydro-culture potted plant)的認識與喜好，幫助了解中國消費者對盆栽植物的購買行為及水耕盆栽植物於中國地區的可接受程度。

本問卷之資料僅供學術分析與研究，並採取不記名方式填寫，個別問卷內容絕不公開。本問卷分為兩部份：消費者基本資料(第 1 至 8 題)及消費者對盆栽植物的購買喜好(第 9 至 25 題)。大約需時 3 至 5 分鐘即可完成。感謝您撥冗填寫！

聯絡信箱：samfish1216@yahoo.com.hk

消費者基本資料：

1. 居住地：

☐ 北京 ☐ 澳門 ☐ 臺灣 ☐ 其他 _____

2. 性別：☐ 男 ☐ 女

3. 年齡：_____

4. 教育程度？

- ☐ 小學
☐ 中學
☐ 大學
☐ 研究所(包括碩士與博士)
☐ 其他 _____

5. 您在家中負責購買日常生活用品嗎？

☐ 皆為我負責購買 ☐ 偶爾負責購買 ☐ 不會購買

6. 您一天中留在室內的時間有多少(包括上班與留在家中的時間)？

- ☐ < 8 hr
☐ 9 hr to 12 hr
☐ 13 hr to 16 hr
☐ > 17 hr

7. 您是否願意購買植物美化室內環境?

☐ 是 ☐ 否

8. 您每月的平均收入:

☐ < 3000 RMB

☐ 3001 to 6000 RMB

☐ 6001 to 10000 RMB

☐ >10001 RMB

消費者對盆栽植物的購買喜好:

9. 您曾經購買過盆栽植物嗎?(如否, 請跳至問題 19)

☐ 是 ☐ 否

10. 請問一年中購買盆栽植物的次數?

☐ 每年一至三次

☐ 每年四至六次

☐ 每年七至九次

☐ 每年多於十次

11. 以下那一項你認為是盆栽植物的好處?(多選)

☐ a 對人體心理有正面影響

☐ b 減少室內空氣污染物

☐ c 美化環境

☐ d 容易栽培管理

☐ e 栽種植物為一良好興趣

☐ f 其他 _____

12. (問題 11)所選的答案中, 又以那一項為最重要好處(a 至 f) _____

13. 您在那裡購買盆栽植物?(多選)

☐ a 傳統市場

☐ b 花店

☐ c 超級市場

☐ d 路邊賣花小攤販

☐ e 其他 _____

14. (問題 13)所選的答案中, 又以那一地點最常光顧(a 至 e) _____

15. 您喜歡購買那一類型的盆栽植物? (多選)

- ☐ a 觀葉植物: 如蕨類、粗肋草、袖珍椰子
- ☐ b 垂吊型觀葉植物: 如黃金葛、蔓綠絨
- ☐ c 蘭花植物
- ☐ d 開花植物: 如長壽花、紅掌(火鶴)
- ☐ e 觀果類: 如金桔
- ☐ f 其他 _____



16. (問題 15)所選的答案中，又以那一種類的盆栽植物最喜歡? (a 至 f) _____

17. 您最常購買那一大小的盆栽植物(盆徑大小)? (單選)

- ☐ 小 (9 cm; 約為成年人手掌長度之一半)
- ☐ 中 (15 cm)
- ☐ 大 (> 15 cm)

18. 您會在節日如農曆新年購買盆栽植物嗎? (回答完問題 18 請至問題 21)

- ☐ 會 ☐ 不會

19. 接續(問題 9)，不購買盆栽植物的原因? (多選)

- ☐ a 昂貴
- ☐ b 非生活上的必需品
- ☐ c 骯髒
- ☐ d 不知道那裡能購買
- ☐ e 太花時間照顧
- ☐ f 其他 _____

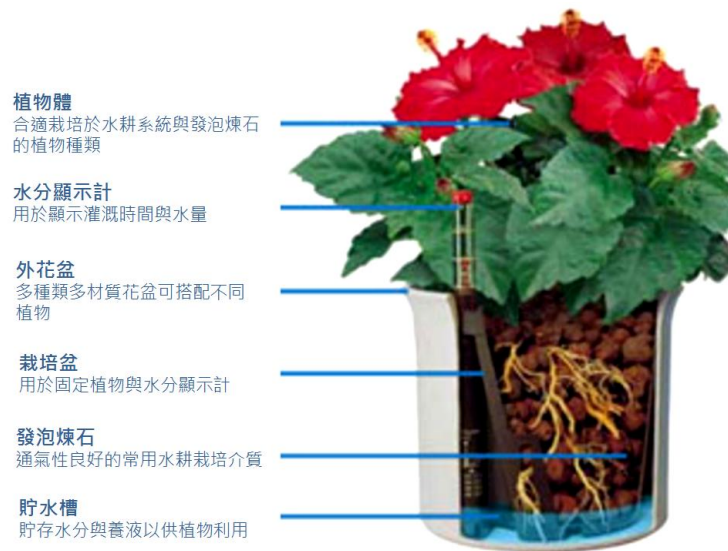
20. (問題 19)所選的答案中，又以那一項的影響最大 (a 至 f)_____

21. 您知道什麼是水耕盆栽植物嗎？

☐ 知道 ☐ 不知道

請閱讀以下文章

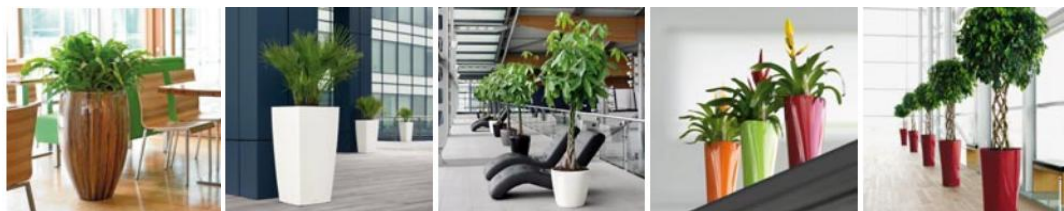
水耕為一種不需要利用土壤的植物栽培系統。荷蘭 Hydro Huisman bv 公司生產之水耕盆栽植物由植物體(Plants)、水分顯示計(Water level indicator)、外花盆(Planter)、栽培盆(Culture pot)、發泡煉石(Clay pebbles)及貯水槽(Water reservoir)組成。



圖片來源: <http://www.hydrohuisman.nl/index.cfm>

與傳統利用泥土的盆栽植物相比，水耕盆栽植物好處如下：

- a 容易管理。水分顯示計會顯示需要灌溉的時機與水量
- b 節省灌溉用水
- c 清潔、無味、沒有土壤相關的病蟲害
- d 利用養液栽培，植物養分利用率高
- e 外花盆樣式多樣化，提高盆栽植物附加價值



圖片來源: <http://www.hydrohuisman.nl/index.cfm>

22. 您認為文章中提及有關水耕盆栽植物的好處重要嗎?

☐ 重要 ☐ 不重要

23. 如重要，請選出您認為最重要的一項好處 (a 至 e) _____

24. 相對於傳統盆栽植物(泥土介質)，您是否願意以較高價格購買水耕盆栽植物?

☐ 是 ☐ 否

(如答案為否，則結束問卷作答，謝謝!)

25. 與傳統盆栽植物(泥土介質)相比，您認為多少為合理的價錢用作購買水耕盆栽植物?

- ☐ 售價較傳統盆栽植物高 < 5%
- ☐ 售價較傳統盆栽植物高 5%
- ☐ 售價較傳統盆栽植物高 10%
- ☐ 售價較傳統盆栽植物高 15%
- ☐ 售價較傳統盆栽植物高 20%
- ☐ 售價較傳統盆栽植物高 >20%

謝謝您的合作與時間!

- 全卷完 -