

Walls (China) Co., Ltd.: Logistics Operations Startup

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This case was prepared as a basis for class discussion rather than to illustrate effective or ineffective handling of an administrative situation.

LOGISTICS CASE STUDY

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**Walls (China) Co., Ltd.
Logistics Operations Startup**

In mid 1994 the Unilever company Walls (China) Co started manufacturing and selling ice cream in China. Bob Smith, the General Manager of Wall's outlined some of the challenges:

Operating in China means a number of new concepts for the Chinese managers -- profit, selling and customer service. The Chinese manager of the past sat in his office and the customers came to him. It was absolutely a supply driven market. I read in an official report some time ago a list of phrases that should not be used when talking to customers. The list included "Go away and don't waste my time" and "Can't you hear? Are your ears dirty?" This has now changed and a key to success is getting our product out to the customers. Distribution costs here are 20 per cent of MPS compared to 5 per cent in Europe.

As Loic Courant, Bob Smith's Commercial Manager in Shanghai, summarized the situation:

He who wins logistics wins China.

Unilever in China

Unilever is an Anglo-Dutch company that has over 500 operating units in 75 countries. The company markets over 1000 brands, including margarine, soap, food products, cleaning products, personal care products and specialty chemicals, and employs over 300,000 people worldwide. Revenues in 1994 were \$US42 billion.

In the 1920s Unilever established a soap operation in China which was nationalized in the 1950s. The company returned to China in 1986 and by 1996 operated nine businesses there.¹ Anton Lenstra, Chairman of Unilever China, described Unilever's current activities in China:

China is one of Unilever's greatest challenges of the next few decades. We often talk about growth in our worldwide businesses, but China is like sitting on the nose-cone of a rocket and we have already ignited the fuel. In the last two years alone we've seen the birth of Wall's Beijing, the building of another Wall's factory in Shanghai, the construction of a new detergents plant in Minhang, the joint venture with Zhanjiakou Detergents, the start up of Lipton Guangzhou and the launch of a whole shopping basket of excellent global Unilever brands. With the continuing support and hard work of all our employees across this great country, I am sure that we will be successful in our drive to deliver profitable growth.²

In formal terms Unilever (China) Ltd details its objectives in China in the following way:

Unilever has every confidence in the continuing growth of the Chinese economy and every year increases its investment in the People's Republic of China. Thus, there is a need for co-ordination of the new investments with existing activities in China. Unilever (China) Ltd provides this co-ordination [by providing the capability]:

- **to manage and co-ordinate long term investment in China;**
- **to co-ordinate, advise and support the UJVs [Unilever joint ventures];**
- **to provide both established and advanced technology to the UJVs in their production, application and development of consumer products;**
- **to provide financial assistance to the UJVs;**
- **to promote and co-ordinate both the export and local sales of products of UJVs and to establish and expand their local and international markets;**
- **to provide consumers with better and more varieties of products and services;**
- **to help balance the foreign exchange income and expenditure of the UJVs;**
- **to provide extensive training programmes for personnel from the UJVs.³**

By 1996 Unilever had nine operations in China with most of them based in Shanghai. (See the map of China shown as Exhibit 1). These were Shanghai Lever Co Ltd (making such brands as Lux soaps, Jif cleansers and Lifebuoy soaps), Shanghai Pond's Co Ltd (manufacturing skin care brands such as Pond's, Vaseline Intensive Care and Pears), Shanghai Van den Bergh Co Ltd (manufacturing bakery fats and ice cream), Unilever (Shanghai) Co Ltd (detergent powders including OMO), Unilever (Shanghai) Toothpaste Co Ltd (making Zhong Hua, Maxim and Signal toothpaste) , Shanghai Soap Co Ltd (toilet and laundry soap including the brands Fan, Baili, Guben and Bee & Flowers), Wall's (China) Co Ltd (manufacturing in two plants Magnum, Cornetto, Calippo, Paddle Pop, Mini Milk and Split ice creams and ices), Zhangjiakou Unilever Detergent Co Ltd (operating a plant in Zhangjiakou in Hebei Province which produces Yunquan brand powder and liquid detergents) and Guangdong Lipton Foods Co Ltd (producing Lipton teas in a plant in Guangzhou).

Wall's China Start Up

Geoff Sennitt was asked in 1992 to move from his position as Managing Director of the Unilever ice cream operation in Australia, Streets Ice Cream, to participate in a four person international study group to evaluate the potential of ice cream operations in China.

The first task of this group was to examine the national market. They concluded that of the 1.2 billion people in China about 250 million were easily accessible -- those living in the "golden triangle" extending up the Yangzi River valley and in the broad strip between Guangzhou and Beijing centered on Wuhan. In China there are one hundred cities with a population of one million people or more and most of them lie in this area. A total of 350 million people live in cities; others live "in the middle of nowhere".

Next was the task of determining the spending power of this target group. Bob Smith, the General Manager of Walls (China) described some potential pitfalls in this process:

The data is very suspect. We looked at the GNP of the coastal strip. But we considered the quality of this GNP data. Was this GNP being generated by State owned companies? We felt that non State generated GNP indicated a more vibrant long term commercial future. From this we generated cities of interest to us and then a distribution profile of these cities. Time not distance was the important factor. From this process we determined a footprint of where we would like to be in China in ten years time.

Per capita GNP for China as a whole in 1993 was 2663 RMB and for seven major cities was:

Guangzhou	11,989
Shanghai	11,699
Beijing	8,237
Tianjin	6,075
Wuhan	4,700
Qindao	5,550
Shenyang	6,141

Walls bought the results of a survey of around 35,000 urban households done in 1992 and 1993. Some of the results are shown in Exhibit 2. Annual real income per capita in urban China was 2,583 RMB compared to 922 RMB in rural areas. For key cities in 1993, annual real per capita income was 4,640 RMB in Guangdong, 4,297 RMB in Shanghai, 3,548 RMB in Beijing and 2,769 RMB in Tianjin. The survey also collected data on durable consumer goods which is shown in Exhibit 3.

Another important role of the study team was to identify a joint venture partner.⁴ At that time in China industries were consolidated into ministries of the central government. Ice cream and detergents were the responsibility of the Ministry of Light Industry. In the early 1990s these ministries were semi-privatized -- the Ministry of Light Industry became the Council of Light Industry. This process generated a number of organizational shells which were used to form joint ventures. One of these was Sumstar. Mr Wu, with whom Unilever had a good working relationship at the Ministry of Light Industry, became head of Sumstar. Sumstar agreed to become a minority joint venture partner in Wall's (China) with responsibility for personnel and public and government relations.

As a results of its initial investigations (stage 1 in the plan below) the study group recommended that Unilever start ice cream operations in China and proposed the following roll out plan:

Stage 1	Determine population and GNP of all Chinese cities Establish urban and rural GNP Group cities by areas
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Stage 2	<p>Grade cities by population and by GNP</p> <p>Estimate per capita consumption by GNP for each city for ten years</p> <p>Project population growth</p> <p>Forecast Wall's market share by years</p> <p>Establish existing and future road condition</p> <p>Select sales areas and methods of distribution and sales</p> <p>Calculate projected distribution costs</p>
Stage 3	<p>Roll out plan by areas by years</p> <p>Provide sales and distribution assets by areas by year and people requirement by function</p>

By the beginning of 1996 Wall's (China) had built two world class manufacturing plants in Beijing and Shanghai and was selling product into these two cities and into the regions around them. The structure of Wall's (China) is shown in Exhibit 4.

Plant Construction

Building is relatively expensive in China -- "materials are expensive, machinery is very expensive, labour is cheap."

The Beijing plant was built on a 52,000 m² site in the Beijing Economic and Technological Development Zone located a half hour drive south of the Beijing CBD. Wall's negotiated a 50 year lease. Building costs were US\$1,000 per m² for general areas such as office space and between US\$1,500 and \$2,000 per m² for the production areas.⁵ As an example, the equipment costs for a production line were \$1.34 million (US dollars).

A case packer was considered. This machine automatically erects (forms) the fibreboard carton, packs it (four at a time) with product and seals it. It operates at 360 cones per minute, costs US\$800,000 and would save 14 people. The case packer was ordered but the order was later cancelled.

Construction began on the Beijing plant in July 1993 and the first ice cream was on the market eleven months later. All the appropriate permits to built the plant were obtained in the first six months of the project.

The Shanghai plant is 60 kilometres from the Shanghai CBD, located in an industrial park in Taicang in Jiamgsu Province. This plant is almost identical to the Beijing plant. It is located on a 64,000 m² site leased for 50 years from the Provincial government. Construction cost US\$37.5 million without the land and full production commenced in March 1996.

Arnold van Weezel, the General Technical Manager, described the overall strategy for these facilities:

We have followed a philosophy in these plants of running them relatively slowly so that we don't make rejects. Our aim is to reduce production costs and material

losses.

Distribution

Walls uses a network of independent distributors who service the street vendors and retail outlets.

Distributors

In Beijing Walls has eight distributors with another three in Tianjin. Tianjin is 130 kilometres south east of Beijing on the Yellow Sea and is effectively Beijing's port. In 1996 when the Tiancang plant is fully operational it will service a network of four distributors in Shanghai, two distributors in Nanjing and one distributor in each of the following cities: Hefei, Yangzhou, Changzhou, Wuxi, Suzou, Hangzhou and Ningbo. See Exhibit 5 which shows a map of this region of China.

The Walls sales force visits each distributor daily during the season (the warmer months of May to September) and once a week during the rest of the year. Orders are not taken during these visits -- they are classified by Walls as "advanced selling". The distributors phone their orders into Walls at their own convenience. Distributors in turn call on their customers -- the street vendors and retail outlets -- daily in the summer months and less frequently at other times, and sell product from the back of the truck. Private individual customers pay cash for the product; government stores have 60 to 90 day accounts.⁶

Each distributor would typically have two or three trucks. These have freezer units and are mostly either 0.9 tonnes or 2.8 tonnes in size. There are "lots of restrictions" on vehicle operations and regulations change without notice. In Shanghai city, for example, these trucks must have military plates and be driven by a PLA soldier with the Walls van salesman sitting next to the military driver. Walls has to pay for the drivers time and provide meals. Regulations change without notice. In 1995 in Shanghai Wall's paid six times the amount they had budgeted for vehicle licenses.

Steve Martin, the National Sales Training Manager, of Streets Ice Cream -- the Australian sister company to Walls -- visited the China operation a number of times to conduct training sessions for the sales force. He described one of the many cultural problems that he has had to face:

For a product like ours quality is very important. But this is not an easy message to get across. One day I visited one of our distributors here in Shanghai. Out the front of the distributor's cold store was an old man sitting on a chair. He was turning the power on and off. When the temperature of the cold store reached the low end of the Wall's specified range he would turn the power off. When it reached the upper end of the range he would turn it on again. His objective was to

save power costs!

Retail Customers

In early 1996 there were 2,400 cabinets in the Shanghai market servicing around 3,000 customers. By the end of 1996 it is planned to have 14,200 cabinets in Shanghai.⁷ During the winter months activity “dramatically closes with maybe 200 working customers” in Shanghai. This seasonality also occurs in Beijing where there are 7,000 cabinets. Walls buys cabinets for US\$600 each and provides them at no cost to their retail customers. Despite customers signing an exclusivity contract many of the cabinets are filled with frozen dumplings and frozen vegetables during the winter months.

Order Processing

Distributors place their orders by ringing the Sales Assistant at the Walls office in Shanghai or the office in the plant at Beijing. Orders are accepted in full pallet lots (of a single product) only and for a minimum total order size of ten pallets. The Sales Assistant writes the SKUs ordered onto the Sales Order Form (see Exhibit 6). In Shanghai, prior to February 1996, these forms were faxed to the external third-party cold store -- the data was not sent online because adequate speed data lines were not available. Orders were then picked directly off the Sales Order Forms. With the Tiancang factory and its cold store coming on stream in February 1996 the contract with the external cold store was terminated and the orders sent on line to Tiancang. In Beijing the same system operated with the order entry clerk entering the order into the computerized order entry / picking / billing system (BPCS). An average of four orders per day -- each of an average fifteen lines -- were received and processed at the Beijing plant. It is expected that during 1996 much the same throughput will be handled at Taicang.

After the order is picked the Warehouse Supervisor prints the three-part Delivery Order Form (Exhibit 7). The first part is filed in the warehouse; the second part goes with the goods to the customer; and the third part is sent to “sales routine” (accounts receivable).

If the computer system is unavailable the Warehouse Supervisor receives the faxed sales order form and writes the lot number (used for batch tracking) and supply location code on it. A manual three part delivery form is prepared with the same distribution as above. When the system becomes available the order is entered as a post shipped order.⁸

Distribution Network

An external cold store is leased in both Beijing and Shanghai. In Beijing it is a 7,400 m² facility covering four floors and with a total of 3,540 pallet spaces. It is used as overflow capacity for the plant cold store and all items are held there. In Shanghai Walls used a leased cold store at Ming Hang, an outer Shanghai suburb. This facility had 2,000 pallet spaces, five high, and a total space of 1,000 m². The lease on this external cold store ran out when the new cold store at the Taicang plant became operational in February 1996.

During 1996 four new areas will be serviced from the Beijing plant: Wuhan with a 1,250 m² cold store⁹ and three distributors; Dalian with a 300 m² cold store and one distributor; Qingdao with a 650 m² cold store and two distributors; and, Jinan with a 550 m² cold store and one distributor. Wuhan is 1,700 kilometres south of Beijing (48 hours driving time) and forms a triangle with Shanghai. Dalian is an a peninsula jutting into the Korean Sea and is 1,100 kilometres east of Beijing (35 hours driving time). Qingdao is 900 kilometres down the coast from Beijing (24 hours driving time). Jinan is 500 kilometres south of Beijing (15 hours driving time).

Within the Shanghai region in 1996 two distributors will operate in Nanjing and one in Hefei, Yangzhou, Changzhou, Wuxi, Suzou, Hangzhou and Ningbo. These cities are all within a 400 kilometer radius of Shanghai in the Yangtze river basin.

Walls does not own or operate any line haul vehicles. They use two third party carriers. A sample of some of the rates charged in 1995 were: Beijing to Tianjin 1890 RMB per trip; Wuhan to Guangzhou 15 RMB per kilometre; Beijing to Qingdao, Dalian or Jinan 13.5 RMB per kilometre. Drivers on these runs are paid 1,700 RMB per month working an eight hour five day week -- this would work out at around 660 RMB for a Beijing to Wuhan or Shanghai trip.

In 1995 Wall's used a local company Rufei (Hong Kong joint venture) to ship product to the Shanghai market from the plant in Beijing. They transported two million litres of product in 40 foot containers each holding 18 pallets.¹⁰ In transit damage occurred to less than 500 cartons.

For 1996 a contract has been negotiated with TNT to do all the line haul transport. TNT initially proposed its "world wide open book approach" with TNT providing the rolling stock which would be depreciated over eight years. Wall's would pay TNT the actual cost of the line haul operations plus 8 per cent overheads and 10 per cent profit. This was not acceptable to Wall's who "needed a fixed transport cost." Costs were divided into fixed costs, operating costs and standing costs and Wall's negotiated a fixed contract for 1996 with an option of extending the contract for another three years. For the Shanghai region four 8 tonne rigids with ten pallet capacity and costing US\$55,000 and three 40 foot trailers with twenty pallet capacity and costing US\$120,000 (not including the prime mover) will be required.

National Infrastructure

A number of major transport infrastructure projects are either planned or underway in China. A two lane highway linking Hong Kong and Beijing is planned to open in 1997. Another new two lane highway links Shanghai and Nanjing. In February 1996 Asian Development Bank loans were granted to China for a number of "projects including an expressway in Chongqing, Sichuan Province, an expressway linking Jiujiang to Jingdezhen in Jiangxi Province ... and a railway linking Daxian and Wanxian in Sichuan Province."¹¹

While the level of investment is large (Asian Development Bank loans, for example, have

averaged over the last few years between US\$1.2 billion and US\$1.5 billion per year) the base is low. Also the variety of traffic using these new roads is such that truck speeds are limited to around 40 kilometres per hour.

Manufacturing

Ice cream manufacture is done in two basic stages: mix preparation in bulk and then production of the individual retail items. Wall's manufacturing facilities in Beijing and Taicang are very similar. See the layout of the Tiancang plant shown in Exhibit 8.

Mix Preparation

The mix preparation section of the plant comprises a number of tanks and pipes linking each manufacturing step. The plant (mix preparation area and the production floor facilities) are automatically cleaned by a system called CIP or cleaning-in-place. Three tanks -- holding cold water, hot water and detergent, together with a washing water tank and associated pumping facilities comprise the CIP. All raw materials such as bagged sugar, milk powder, flavours, colours and stabilizers together with the liquid ingredients such as rework, coconut and palm oil and water are loaded in batches into premix mixers. From here the premix is pumped into the pasteurizer and then, for non water ice products, into the homogenizer. The product is then cooled and stored in a farm of eighteen mix storage tanks. The mix has to be held in storage for a minimum of 24 hours before it can be used in production.

Production Floor

Product is pumped from the storage tanks to the production floor through 20 mm pipes. The production floor has four lines where the retail products are made and packed. After being "shaped and moulded" the product moves into freezer tunnels. After specific times in the freezer tunnels the product then moves onto the wrapping machine. After wrapping the product travels onto conveyor packing lines. Cartons are packed manually on the conveyor as it moves to the palletizing area. All conveyor lines merge at the palletizing area. Here the cartons are stacked by hand onto pallets. The palletized product then goes through a hole in the factory wall and into the cold store.

Plant Workforce

The Beijing plant operates with a full time workforce of 100 people. In addition are 250 to 300 seasonal workers who are employed mainly during the peak demand between June and August. Most seasonal are employed as packers for a period of six to eight months at a pay rate of 400 RMB per month.¹² If they return the following year they are paid a 1,000 RMB bonus after completing their third month of re-employment. More than 85 per cent do return each year. Line operators are paid more -- between 600 and 800 RMB per month depending upon their length of employment with Wall's. Line workers and packers are initially employed for a three month trial period during which they can be fired. Supervisors, shift leaders and managers are University graduates. A line supervisor (one for each production line for each shift) are paid up to 1500 RMB per month. Area supervisors -- responsible for either the mixing or the finishing areas --

are paid 1800 RMB per month and the shift leader 2500 RMB a month. Graduate engineers are paid 2300 to 2500 RMB a month and electricians, mechanics and fitters 1100 RMB per month.

Both line operators and supervisors rotate jobs. The operators change jobs within a particular line during a shift and over a number of weeks between lines. Unskilled packers do not rotate their jobs. Everyone in the plant works a 40 hour week on one of three shifts -- 8:00 a.m. to 4:00 p.m., 4:00 p.m. to 12:00 midnight, and midnight to 8:00 a.m. -- which they rotate every month. On Saturdays and Sundays 20 per cent overtime is paid and 50 per cent is paid on public holidays.

Wall's provides buses from a number of central locations to the plant. Many people may spend up to two hours travelling each day. To ease this problem an internal agreement has been reached for supervisors and above to work 12 hours on and 36 hours off over a seven day week with no overtime.

Maintenance can provide some difficulties for Mike Wong, the Beijing Factory Manager. Typically "experts from the suppliers spend three to six months in the plant to get the machines going and then they train the operators one-on-one." Maintenance -- "locals don't like to do it." Plant and equipment spares are held in the Technical Store. Almost all of these are imported and stock levels are held to cover lead times of one week by air and three months by sea.

Each Thursday there is a factory meeting attended by the Mix Room Supervisor, the Production Manager, the Engineering Manager, the Factory Planner, the Cold Store Supervisor and the Dry Goods Store Supervisor. Major problems, the next week's production and the impact of legislation changes are discussed.

Plant Cold Stores and Warehouses

At both plants the cold store and the raw material warehouses are integral parts of the manufacturing facilities.

Construction of the production hall at Taicang began in January 1995. Two cold stores are planned to hold the output of the plant. The first cold store was built during the period September 1994 to February 1995. There are two areas in the cold store. The first is the storage area itself which holds product in 2,720 pallet spaces at a temperature of -28° C. The pallets are in twelve sets of mobile racking five high and are serviced by an MHE Demag reach truck. Only one of these sets can be accessed at any one time and it takes eight minutes to completely open. The second section is the staging area where orders are accumulated on the floor. There is room for between 100 and 200 pallets in three rows; each row leading to one of the three truck docks. In total the cold store is 1,500 m² in size. The second cold store is a mirror image of the first and was built during the period August 1995 to March 1996. It does have a static pick face of 200 pallets which are replenished each night. A reach truck also operates in this cold store.

Product from the plant is located in the cold stores on a random basis. The warehouse supervisor obtains the put away location for each pallet from his computer screen. The

computer program allocates product to one rack at a time.

The dry goods store at Taicang has 1,600 pallet spaces. A section to the side of the dry goods store is used for production of the cones used for Cornettos.

In Beijing Wall's operates two cold stores. The first is part of the manufacturing facilities at the Beijing Economic and Technological Development Zone site and the second is an external cold store located between the plant and the Beijing CBD. There are 1,760 pallet spaces in the plant cold store and a total of 5,300 pallet spaces in both. The plant cold store operates in a similar fashion to the one at the Taicang plant but it does not have mobile racking nor a separate order staging area.

The dry goods store at the Beijing plant holds raw materials -- such as bagged sugar and milk powder, flavours, colours and stabilisers -- and packaging materials -- such as inner cartons, outer fibreboard cartons and wrappers for products. It has 1,200 pallet spaces. Each pallet is 1000 mm by 1200 mm and costs between 150 and 180 RMB to make. These pallets are captive to the Wall's operation. An external store is used to hold additional stock.

Production Planning

Production planning is based on a rolling annual estimate by product¹³ which is updated every three months. This estimate together with production line capacities and shift plans¹⁴ provides the input for the master production schedule which is developed on a weekly, monthly and quarterly basis.

BPCS is the business planning and control system¹⁵ or MRP11 system used by Walls. Major inputs are the master production schedule, the bill of materials and the inventory status information.

The master production schedule (MPS) is generated by Annie Yee, the Planning Manager. She takes the forecast developed by marketing by litres by month by product and converts this into boxes (or inner containers). Given line capacities and warehouse capacities and a number of decision rules -- such as aiming at having 30 per cent of the annual inventory requirement in the plant warehouses by the beginning of the second quarter -- she creates the MPS. It is regenerated every week on a rolling 13 week basis.

Walls has a limited number of SKUs and the product structure of any of them is not very complicated. Cornetto has the most complex bill of materials and it is five levels. Most are three levels with 14 or 15 product numbers. Some increase in the number of product numbers has occurred due to regulation -- the wrapper, for example, now has to have the place of manufacture on it and some local authorities require a listing of the water quality used in the product.

According to Sue Sharpe, Walls BPCS Project Manager, "inventory accuracy is a challenge". This is complicated by the requirements of lot control. Minimum stock

balances and safety stocks are set by the buyer of the particular item or by the technical people for flavours and colours.

MPS / MRP is run weekly. It covers a planning horizon of 13 weeks which is the length of the longest lead time raw material. Sales are able to change their sales estimates every week which are input on Monday and Tuesday prior to the MPS being regenerated on Tuesday night. The aim is to have a factory plan which is fixed for one month -- in 1996 it was pretty much fixed for two weeks. This is difficult because of the unreliability of the lead times of the raw materials. Backflushing is not used because of the difficulties in maintaining inventory accuracy at 98 per cent.

BPCS is also used for longer term planning. By September or October each year the annual estimate for the following calendar year is produced. Using this data MPS / MRP is run in simulation mode for the planning period. The results of this run are signed off by management. At the end of the first quarter the annual estimates are revised (FUF or first updated forecast) and simulation MPS / MRP is re-generated for the planning period. After approval the plan is moved to "live" and managed on a rolling week review.

Supply

Between thirty and forty suppliers provide raw materials and packaging materials to the Wall's manufacturing operations in Beijing and Shanghai. Wong Loke Sun, the Deputy General Manager of Walls (China) outlined the company's supply policy:

Things don't go to plan in China. Particularly with supplier lead times. It is very difficult indeed to forecast lead times and this has an impact on our safety stock levels. Supplier relations in China tend to be focussed on financial considerations. Often you get into situations of triangular debt -- you, your supplier and the customer -- and no-one pays! "Collect fast and pay last" is the motto followed by a lot of companies. We don't do that, we pay on time.

For raw materials and packaging materials (but not engineering and capital equipment) Walls normally has two suppliers. The objective is to have 100 per cent local suppliers. During 1996 there was often one local and one overseas supplier for a key material. For example, in addition to the local supply of skim milk powder, the New Zealand Dairy Board supplies skim milk powder in 16 tonne lots with a 90 day lead time. Wall's uses a number of suppliers for flavours and colours. These are all imported and the lead times from these suppliers, located all over the world, is around 90 days.

In addition to these raw materials Walls needs a large volume of packaging materials. Many products are covered in a plastic flexible wrapper (Paddle Pops and Fruity Pops for example). The Australian company Leigh Mardon and a local supplier provide these wrappers. Until the end of 1995 the Leigh Mardon wrappers were imported from Sydney. During 1995 Leigh Mardon built a plant on the same industrial park as Walls

Beijing. Wrappers have a 20 day lead time, most of which is due to the setup for printing, plus another 15 days if the printing cylinder has to be made. Cornetto sleeves and Calippo tubes are imported from SEDA in Italy. The lead time for both of these is 120 days with the Cornetto sleeves having a minimum order size of 1.7 million pieces and the Calippo tubes having a minimum order size of 0.9 million pieces. Outers, or fibreboard cartons, are supplied by three local companies with a lead time of between ten and twelve days and a minimum order size of 20,000 pieces.

As Wong Loke Sun explained “suppliers are chosen on the basis of price, service and payment terms -- quality is a basic.” About 70 per cent of Walls annual requirements are covered by annual supply contracts. Periodic releases are then made against these contracts. The normal terms for locally supplied items are 30 days from the date of receipt. For imported items it is 60 days from the date of receipt.

Safety stocks held by Walls vary by product. For Cornettos, for example, a safety stock of one week’s demand is held for the outers and 1.0 million pieces for the sleeve. In the peak season one week’s demand of skim milk powder is held -- two weeks (30 tonnes) in the winter.

The contract with the supplier specifies lead times, lot sizes and payment terms. Individual purchase orders (shown in Exhibit 9) are three part documents: the first is faxed to the supplier; the second part is filed in the Supply Department; and the third part goes to the Commercial section for eventual payment. When the goods arrive at the plant warehouse the driver and the Walls materials handling people physically match the quantities received with those on the purchase order (retrieved electronically on the screen at warehouse receipt). If the actual quantity received is within 5 per cent of that expected and if QC approval is obtained the receipt docket is generated. (Exhibit 10 shows the MRRF or the material receipt / reject form). Then a pro forma invoice (or fapao as it is often called in China) is generated to initiate the payment process.

Marketing

Obtaining and servicing the retail outlets is a considerable challenge for Walls (China). By the beginning of 1996 Walls had 42,000 refrigerated cabinets in the field.

Cabinets are bought in knocked down form and assembled in Beijing. They are then delivered to the distributors who in turn deliver them to the retailers in the ice cream trucks. Each cabinet is barcoded and losses have been held to around one per cent. Cabinets in use in Beijing are typically larger than in Shanghai -- 850 litres compared to 650 litres. Retailers are provided the cabinets at no cost but sign a contract which includes an exclusivity clause. In spite of this many cabinets are filled with frozen vegetables and frozen dumplings during the cold northern China winter.

Walls has had to set up exclusive distributors. This has involved either Wall’s building a cold store on the distributor’s premises or hiring a local cold store, which typically have out of date facilities. Ice cream has a long shelf life, but product quality is highly dependant on the “cold chain”. This means that from a temperature of -28° C in the factory cold store to -22° C in the retail cabinets the temperature should drop slowly and

evenly.

Establishing the Walls brand is another key marketing task. Consumer surveys done in 1995 indicated that the Walls brand was often perceived to be a local brand. This made it difficult to sell product which was relatively expensive.¹⁶ Marketing and selling skills in China are generally poor. In many industries, such as beer, local brands are under great pressure from international brands. In response to this the government has restrained external competition in industries such as banking, insurance and retail.

Walls is concentrating on impulse products in China. "The money is in impulse products not take home products. We will look at take home after we have succeeded in impulse". The large expatriate communities in Beijing and Shanghai also have a distorting effect on the measures of Wall's success. "We are not in China to sell to expats" warns Geoff Sennitt. He also warns that "Beijing and Shanghai are not China". But even though it is expensive to borrow money in China, Walls will use the same type of distributor network that it has used in all other parts of the world. "What we do elsewhere we will do in China -- everything is possible in China."

Forecasting

Sales forecasting is the sole responsibility of marketing. For the first few years of the Unilever ice cream operation in China forecasting was a high level strategic activity. With no historical sales it was a question of examining the total market, the number of competitors and Walls ability to supply.

There are 600 local ice cream companies registered in Beijing and Shanghai. Prior to the mid-1980s these made only one product, water ice on a stick. Then they added "primitive cup products." Geoff Sennitt, Wall's Marketing Controller, is of the view that local manufacturing "will disappear in time, they are selling a highly dangerous product at low prices." In addition to the local manufacturers there are New Continent, Buds of San Francisco and Meadow Gold (part of Pacific Dunlop) in Beijing and San Marlo (Taiwan) and Watsons (Hong Kong) in Beijing. Nestle has ice cream plants in Tianjin and Qingdao and a joint venture operation with Dairy Farm in Guangzhou.

Product Development

In 1995 it was decided by the marketing group at Walls that "we need low cost local products for next year." Marketing prepared a brief that detailed among other things the final retail cost and size of these planned products. The desired price of 1.5 RMB restricted the product to a water ice or a milk ice. The target market selected by Walls marketing was the teenager and young adult in the 15 to 30 age band.

Nick Evans, the Development Manager, described the process:

We talked to the market. Red bean and taro sell well for local companies, so we felt we had to consider these. We then looked around and asked what was a popular flavour -- in general it didn't have to be a water ice or a milk ice. Hawthorn was certainly popular -- as a drink, in sweets, "hawthorn on a stick" -- and no competitors had it in their ranges. We also noticed that all ice cream

companies in Shanghai had salty water products.

The target market determined the sweetness of the product -- children like it sweeter. Local products were also larger. To get a rough idea of the flavour Nick Evans tasted competitive red bead and taro products. He also bought drinks and sweets made with these flavours. Then he looked at the flavour samples that Walls already had and talked to a range of flavour manufacturers and distributors about what they could supply. As marketing had set the retail price he had to work back, using the required margins, to establish the cost of the materials required. "The true variable cost is in the mix itself. If the cost is too high you have to go back to the recipe." Economies of scale have little impact on the basic raw materials, but do have some impact on the flavours used.

After some product prototypes were developed the product was consumer tested. A group of 100 school children were given the four new products -- hawthorn water ice, red bean milk ice, taro milk ice (both of these last two made in a big mould), and a half and half orange and lemon lime salty water ice -- after lunch to taste test. Results from these tests were favourable. These four new products were launched in March 1996.

New product ideas come from a range of sources. A number come from the technology area of the company. In some cases product prototypes can be made up very easily -- a litre of the mix made by hand, put into a Calippo tube and frozen in the laboratory. If larger test volumes are required the manufacturing equipment has to be used.

The Future for Wall's in China

Bob Smith, the General Manager of Wall's (China), sat in his office in the Beijing Economic and Technological Development Zone in February 1996 and looked across the frozen ground towards his manufacturing plant.

In the long term we have two major factors which will determine our success here in China -- distribution and the development of local management. If we can conquer these there are a number of exciting opportunities for us. Sichuan is of interest. It is China's most populous Province -- Chongqing has around 17 to 18 million people compared to 14 to 15 million on Shanghai. Harbin in the north is also of interest -- a heavy industrial city but Heilongjiang Province also has a sizeable dairy industry and relatively high ice cream consumption. Shandong with its high levels of Korean and Japanese investment is another exciting area.

Exhibit 2
Survey of Urban Households

	<u>92</u>		<u>93</u>		<u>92 v 93 %</u>
Households surveyed	36290		35390		
Avg persons/household	3.4		3.3		
Avg employees/household	2		2		
Annual Income/Capita (RMB)	2032		2583		27%
Per Capita Income Available for Living (RMB)	1826		2337		28%
Annual Living Expenditure per Capita	1672	100%	2111	100%	26%
Food	885	53%	1058	50%	20%
Clothing	241	14%	301	14%	25%
Daily use Articles	162	10%	247	12%	52%
Cultural and Recreational Articles	74	4%	70	3%	-5%
Books, Newspapers & Magazines	16	1%	19	1%	19%
House Rent	14	1%	22	2%	31%
Water & Electricity	29	2%	38	2%	31%
Gas	5	0.3%	9	0.4%	80%
Others	246	15%	347	16%	41%

Exhibit 3
Possession of Durable Consumer Goods

	<u>URBAN</u>			<u>RURAL</u>		
	<u>Increase</u>			<u>Increase</u>		
	<u>92</u>	<u>93</u>	<u>%</u>	<u>92</u>	<u>93</u>	<u>%</u>
Washing Machine	83	86	4%	12	14	17%
Colour TV	75	79	5%	8	11	38%
Black & White TV	38	36	-5%	52	58	12%
Shower	13	18	38%			

Exhibit 4 Organization Structure

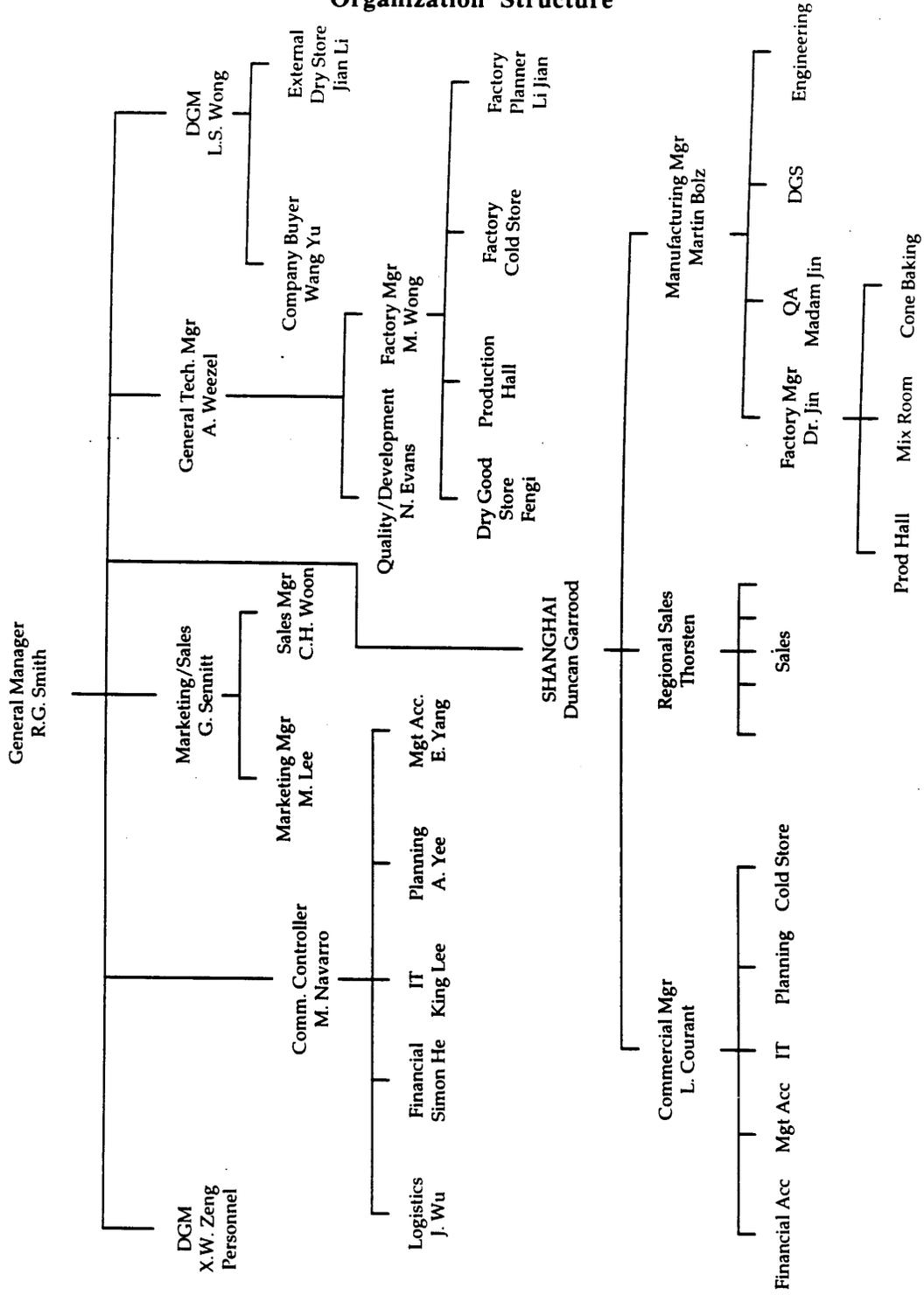


Exhibit 5
Map of Shanghai Region

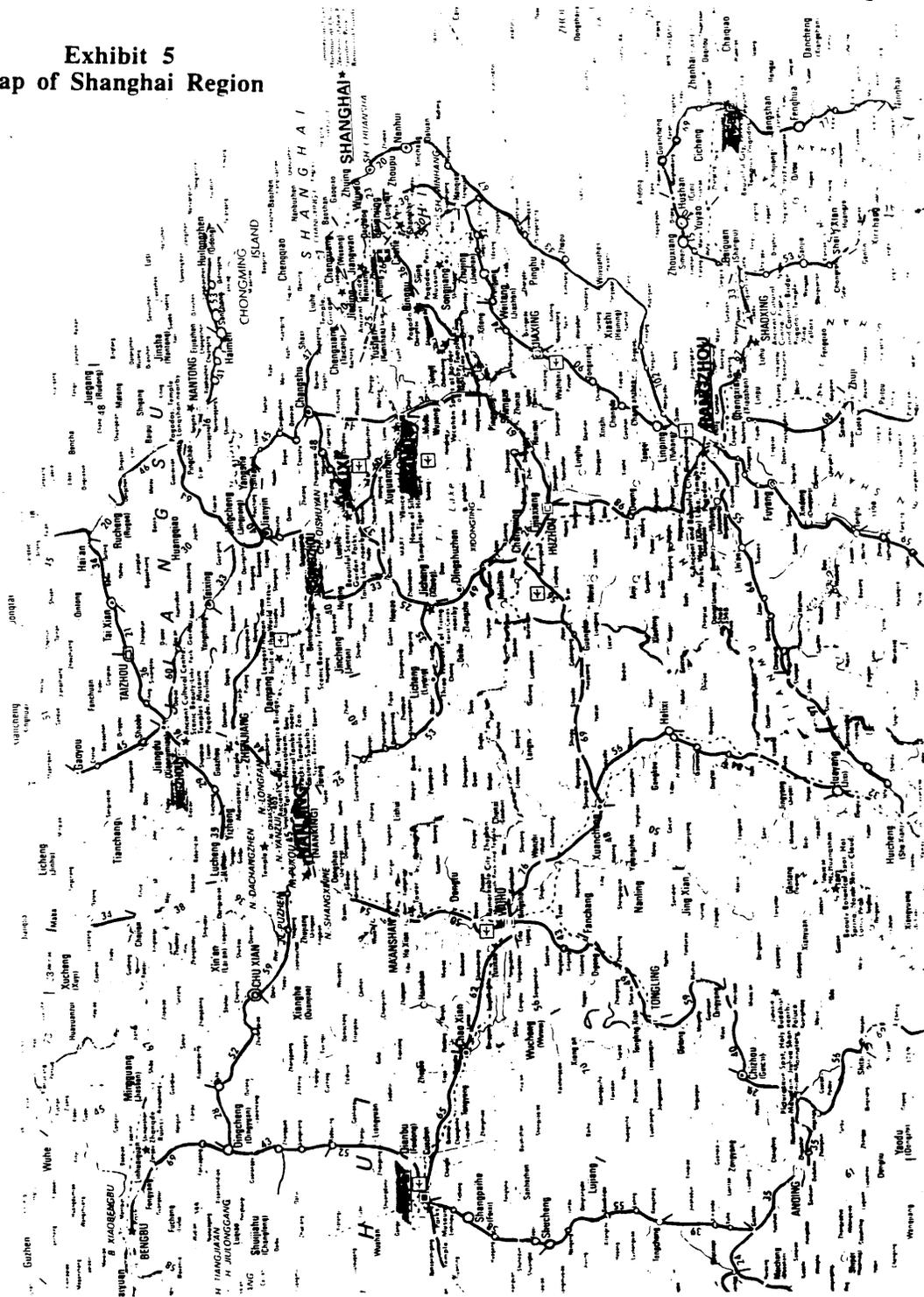


Exhibit 6 Sales Order Form

CUSTOMER NUMBER _____
 CUSTOMER NAME _____
 DELIVERY DATE _____
 DELIVERY INSTRUCTIONS _____
 SUPPLY WAREHOUSE _____
 BPCS ORDER NUMBER _____

Date: _____

ITEM		ORDER PL	LOT NUMBER	LOCATION	SHIPPED BOX
NO	DESCRIPTION				
100	Magnum				
110	Calippo				
120	Fruity Pop				
125	Joker				
130	Top Ten				
140	Split				
150	PP Choc				
151	PP Str/Choc				
152	PP Banana				
160	Mini Milk				
170	Rocket				
200	Cornetto Van				
201	Cornetto Choc				
202	Cornetto Str				
300	Star Cup Van/Str				
301	Star Cup Van/Cho				
Total					

ORDER BY:

PICK BY:

ENTER BY:

Exhibit 8
Layout of the Taicang Plant

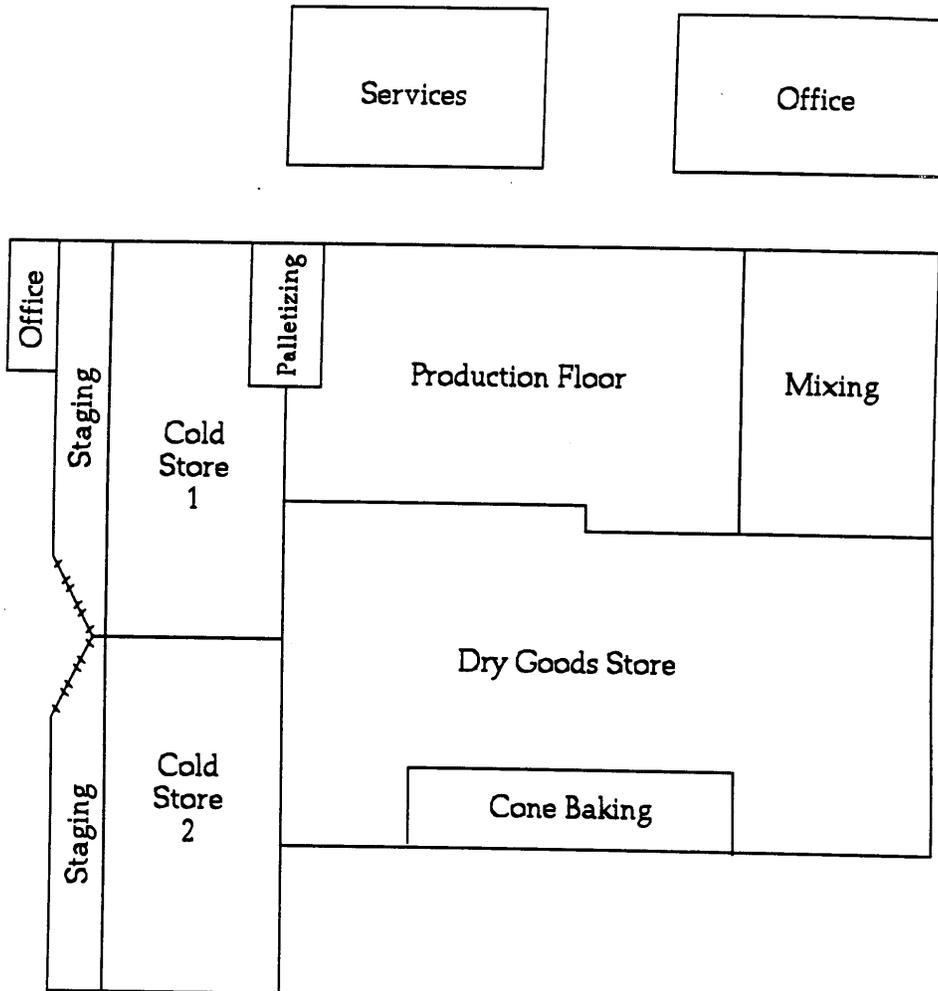


Exhibit 9 Purchase Order

Wall's (BEIJING) CO. LTD.



No.16 Wan Yuan Street
Beijing Economic And Technological Development Zone
Beijing P.R.China Postal Code 100071
Tel: 7681068 Fax: 7681064
100071 北京经济技术开发区 16号
电话: 7681068 7681068 7681064

P.O. number to be quoted on all invoices & correspondence
开票及往来信件请标注本单号
Invoice to: Commercial Department of Wall's
开票请标注财务部

PURCHASE ORDER 采 购 订 单 No.

Vendor Name & Address: _____ Delivery to: _____

Item Code 物料号	Description 描述	Delivery Date 交货日期	UOM 单位	Quantity 数量	Unit Price 单价	Amount 金额
Packaging & Transport 包装及运费						
VAT Rate 增值税率			VAT Amount 增值税额			
Total Amount 总金额						
Payment Term 付款条件						
Currency 币种						

The purchase order is subject to the terms and conditions outlined on Sales Contract No. _____
此采购订单受销售合同第 _____ 号条款约束

Comments: _____

Order Placed By: _____
Date: _____

Authorised By: _____
Date: _____

Vendor(White)
供应商(白)

Buyer(Pink)
买方(粉)

Commercial(Yellow)
第三方(黄)

Notes:

1. These are Shanghai Lever Co Ltd, Shanghai Pond's Co Ltd, Shanghai Van den Bergh Co Ltd, Unilever (Shanghai) Co Ltd, Unilever (Shanghai) Toothpaste Co Ltd, Shanghai Soap Co Ltd, Wall's (China) Co Ltd, Zhangjiakou Unilever Detergent Co Ltd and Guangdong Lipton Foods Co Ltd.

2. *Chinafile*, Unilever China, Shanghai, issue 1, 1995, p.3.

3. *Unilever in China*, Unilever (China) Limited, no date.

4. At the end of 1992 when the study team was at work foreign companies operating in China were required to have a national joint venturer. By 1996 this was no longer the case.

5. Total costs for the Beijing plant were US\$52 million.

6. The government stores "always pay, but often are late".

7. The average annual throughput per cabinet is 700 litres in Shanghai and 850 to 900 litres in Beijing.

8. The computer system allocates inventory automatically based on FIFO. If there are any changes to the computer allocation, this is updated before the delivery order is printed.

9. Normally 200 m² of cold store space will hold twenty pallets.

10. Each pallet contained an average of 550 litres of product.

11. *China Daily, Business Weekly*, vol 15, no 4710, 28 Jan - 3 Feb 1996, p. 1.

12. Other unskilled workers such as cleaners and cold store workers are also paid 400

RMB per month.

13.Walls in 1996 had 14 SKUs including five catering products in 5 litre tubs.

14.From mid April to August the plant operates three shifts -- 7:00 a.m. to 3:00 p.m., 3:00 p.m. to 11:00p.m. and 11:00 p.m. to 7:00 a.m. During August and September two shifts are worked and only one in October. Sometimes in October the plant is closed. During November, December and January two shifts are worked “depending on stocks”. One or two shifts are worked in February and March.

15.Developed and marketed by SSA (Systems Software Associates).

16.A Magnum, for example, sells for 7.5 RMB with an average factory process worker being paid around 2 RMB per hour. This expenditure on a Magnum might be the equivalent of meat purchases for a family for two weeks.