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OPTIMIZING PHARMACEUTICAL COMPANY'S WAREHOUSE SYSTEM

Case study: DKSH Vietnam Co., Ltd

International Business
2020

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ABSTRACT

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Title	Optimizing Pharmaceutical Company's Warehouse System
Year	2020
Language	English
Pages	57
Name of Supervisor	Jukka Paldanius

Due to the fact that DKSH Vietnam is developing and becoming a leader in the pharmaceutical distributor sector, the researcher conducted this thesis with the aim of building strategy and assisting company gets over recent weaknesses. The applications for DKSH Vietnam are expected to expand to enterprises in Vietnam logistics.

The primary objective of the thesis is systematizing basic theories as well as experiences, assessment criteria for warehouse management, planning, design organization, network layout testing, and design is in stock.

The final aim is to research the current situation of warehouse management, thereby building complete solutions to improve warehouse management skills, applying logistics service models and supply chain management in pharmaceutical warehouse services in the company DKSH Vietnam Company Limited.

The results of the research showed the recent status of the company and the effectiveness of the innovation from technology to human factors.

Keywords Logistics, application, warehouse, innovation

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LIST OF ABBREVIATIONS

JIT Just In Time

SAP Systems Applications and Products in Data Processing

SOP Standard Operation Practices

ISO International Organization for Standardization

GSP Goods Storage Practices

GMP Goods Manufacturing Practices

SKU Store Keeping Unit

FIFO First In First Out

FEFO First Expired First Out

BU Business Unit

RRC Regional Replenishment Center

EDP Electronic Data Processing

GRA Goods Received Arrival

GRN Goods Received Notice

DVLCDC DKSH Vietnam Logistics Central Distribution Center

OPU Order Processing Unit

EDI Electronic Data Interchange

eBPCs Warehouse Management System Software

RDC Regional Distribution Center

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1. INTRODUCTION

1.1 Background of thesis

Vietnam is one of the most developing ASEAN countries after accomplishing economic restructuring period 2010-2017. Exporting and importing activities are remarkable increasing with the aim of encourage Vietnam to keep up with the globalization trend. The small and medium-sized enterprises have extended production and supply chain scale to accommodate today's tremendous consumption needs. As a consequence of the mentioned factors above, Logistics has emerged as an essential function within businesses and played crucial role in Vietnamese market economy. Nevertheless, due to the freshness of this field, managing, as well as operating abilities become a concerning issue to company.

Logistics is not an isolated action, it is chain of continuous activities that are related, influence each other, conducted systematically and scientifically via order steps research, plan, organize, manage, conduct, exam, control and improve. It includes a variety of activities in organization from strategy general building to particular activities. In the supply chain, warehouse service is crucial link in the whole process.

Accordingly, in order to optimize the efficiency and quality of DKSH Vietnam company's Logistics system, this thesis focuses on researching warehouse sectors.

1.2 Objective of thesis

Firstly, the thesis codifies foundation and company's resource, warehouse management assessing criteria, plan, organization, design, network distribution and equipment checking.

Based on that, the real problem of warehouse management in a company are analyzed, then the thesis builds methods improving completely for warehouse managing's quality, applies new and most suitable Logistics service models into the the pharmaceutical warehouse service activities at DKSH Vietnam.

Eventually, the thesis leads to the conclusion regarding the company orientation and specific steps to enhancing operating effectiveness at the pharmaceutical warehouse.

1.3 Thesis structure

This thesis includes three primary sections, which are research methodology, research company's problem and solution.

Regarding the research methodology section, firstly, an overview history and definition of logistics is presented in order to give a general picture of this field.

Furthermore, this section presents rationale behind and practicability of utilizing Logistics service models and supply chain management in warehouse operation. Besides, the thesis further researches pharmaceutical warehouses as well as experience the lesson from regional warehouses.

In the following section which was named “Reality of pharmaceutical warehouse operation and feasibility of adopting researched Logistics service models and supply chain management into DSKH Vietnam’’, history of establishment and development is reviewed; in conjunction with information and influence factors on warehouse are collected, analysed with SWOT tools.

Lastly, after accomplishing the empirical study with result of the interviews, the thesis generates orientation and solution based on collected data to optimize the warehouse operation in DKSH Vietnam.

2 THEORICAL BACKGROUND

2.1 Logistics definition

Logistics received much attention from the military during both World Wars. The Second World War necessitated greater movement of troops and supplies than any other period in history. A Dictionary of Modern War (Luttwak, 1971) described logistics as: “All the activities and methods connected with the supply of armed force organizations, including storage requirements, transport and distribution.” Since in modern conditions a wide range of equipment and supplies is employed in widely varied “mixes”, logistics involves a great deal of planning and calculation as well as physical activities. The aim is to provide each echelon of the armed force organization with the optimum quantity of each supply item, in order to minimize both overstocking (which restricts mobility and causes diseconomies) and shortages of essential equipment.”

Over time, the application of logistics has moved into the business arena. Although several business fields have separately defined logistics, one organization, APICS (Cox et al., 1998), defines logistics in both the military and the business contexts: “In an industrial context, the art and science of obtaining, producing, and distributing material and product in the proper place and in proper quantities. In a military sense (where it has greater usage), its meaning can also include the movement of personnel.”

Deeply in business context, as Logistics world magazine 1997 has refered: “Logistics is business planning framework for the management of material, service, information and capital flows. It includes the increasingly complex information, communication and control systems required in today's business environment.”

In 1991 the Council of Logistics Management, a trade organization based in the United States, defined logistics as: “The process of planning, implementing, and controlling the efficient, effective flow and storage of goods, services, and related information from point of origin to point of consumption for the purpose of conforming to customer requirements. Note that this definition includes inbound, outbound, internal and external movements, and return of materials for environmental purposes.”

From mentioned above definitions, logistics covers the pair of levels: Strategy and Execution for two below sections:

Section 1: Location: Where, where to, when material, semi-finished product, tangible product and service are stored, delivered.

Section 2: Transportation and storage: How to deliver all resource and inbound factors from the beginning point to the end of supply chain.

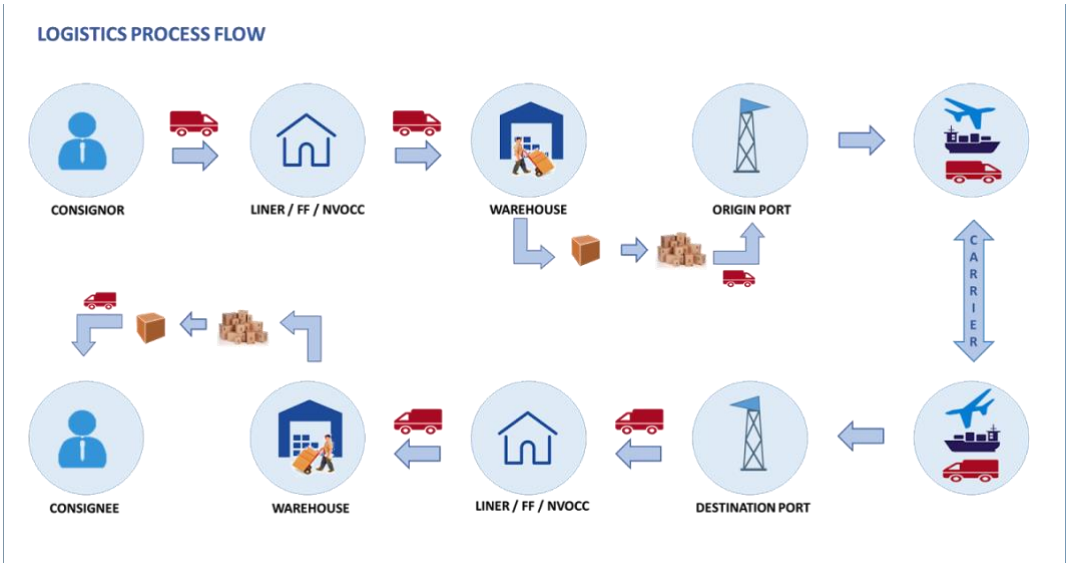

Figure 1 Logistics Process Flow (System Plus Group, 2017)

2.2 Logistics developing history

Following ESCAP (Economic and Social Commission for Asia and Pacific), logistics has been concerned since 1960s and has developed 3 phases till now.

Phase 1: Distribution

In 1960s, competitiveness among businesses was intensive because of expanding production scale, product amount which is overproduced comparison with limited consumption on market. Due to the fact that, the manufactures had begun to take consideration into costs, in which distribution costs are top priority, for example, transportation, maintenance, inventory, packaging and classification. The businesses had established progressively a distribution system so to minimize total cost at the end.

Phase 2: Systemization

Until 1980s, the experts had researched a system to optimize inbound and outbound of production process to save cost, control the efficient, effective forward is called logistics system.

Phase 3: Supply chain

In present days, the businesses start managing, controlling the whole operation chain from supplier, to manufacturer, to end customer and feedback professionally with the purpose of fully develop the process. In which, stakeholders are shipper, consignee, transporter and carrier.

2.3 Logistics concept

On the world, Logistics has developed to 5 concepts.

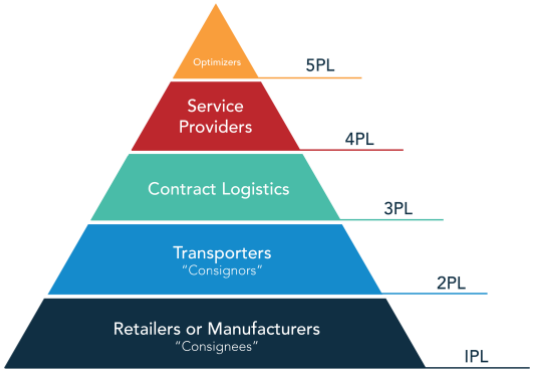

Figure 2 Logistics concept (Matthieu, 2018)

First Party Logistics- 1PL: The primary party logistics is mentioned as a firm or individual, that has their own cargo, freight and might transport goods and merchandise from one point to the different point by themselves. They are the owner of various goods and products and organize the transport of products to their respective destinations. It mainly consists of two parties that get benefit from the transaction. The manufacturer or the supplier and also the person who buys it. There are no other middlemen involved in the whole process.

Second Party Logistics- 2PL: A second party logistics involves transport of goods from a particular transport area of the provision chain such as rail, road, sea or air. They are the asset-based carriers and include like transport using ships of own lease and airlines that they are contracted with. They are mainly used for international transportation of heavy and wholesale goods and for trading purpose similarly.

Third Party Logistics- 3PL: A third party logistics refers to a supply chain that primarily concerns the transportation and delivery of different products but also includes various types of additional services as well. The functions of 3PL include warehousing, terminal operations, customs brokerage, supply chain management and many more. It also includes logistics IT software products and analysis services, for tracking and tracing the delivery status of different products. These 3rd party logistics delivers all the above-mentioned services and also manages various obstacles that are available on the way. They concentrate on domestic and offshore warehousing and also takes care of your other supply chain management systems.

Forth Party Logistics- 4PL: Among the 1PL 2PL 3Pl 4PL and 5PL, the 4th party logistics is a new concept which is coming into the market, and it involves employing an overseer for managing a whole supply chain of a corporation. This logistics are often called Lead Logistics provider and they are often treated as a consulting company for several supply chains. They act as a head administrator and takes care of each aspect of those supply chain companies.

They are frequently contracted with many third-party logistics and for maintaining neutral management and for providing feedback regarding various 3pl logistics services. With increased efficiency 4PL is becoming the subsequent big thing within the logistics sector. They supply a single invoice solution and streamlines logistic work like no other.

Fifth Party Logistics- 5PL: A fifth party logistics provider is additionally referred to logistics aggregator. They will aggregate the demands of the 3PL and others into bulk volume for getting better rates with different types of airlines and shipping companies. This type of logistics is not asset based. It usually works seamlessly across all disciplines.

In addition, logistics may be divided into many groups in keeping with its trait.

Type 1: Based on process

Inbound Logistics: The activities ensuring income resource (capital, material, information and personnel) to optimize location, time and cost for production process.

Outbound Logistics: Deliver to right customer at right place in right time with effective cost.

Inhouse Logistics: Handling material and products within own organization when it is not inbound or outbound logistics.

Reverse Logistics: Be for all operations associated with the reuse of products and material. It is process of moving cargo from their typical final destination for purpose of recapturing value, or proper disposal.

Type 2: Based on type of industry:

FMCG Logistics: Logistics process for fast-moving consumer goods, for instance: packaged foods, beverages, toiletries, over-the-counter drugs.

Chemical Logistics: Logistics activities for chemical industry.

Pharmaceutical Logistics, Electrical Logistics and many other industries.

2.4 Logistics function

Through given logistics definition, it clearly can be seen that customer requirement satisfying always is top priority of business but limited by operation cost. With logistics, the more developed it is, the more above-mentioned negative correlation between quality and cost saving is addressed appropriately. Up to now, logistics is being more important to enterprise’s growth in many aspects of economy.

2.4.1 Business macroscopic strategy

In term of sales revenue, logistics assists enterprises empower economical effectiveness and competitive priorities of themselves on market. Decreasing expenses in conjunction with aggrandizing value added to potential customers, especial international force, stimulate foreign investment to domestic market, also create chance for in-country businesses approaching the off-shore market, through it, national economy grows significantly.

As recent economic researches, logistics' competence and price of Vietnam is one amongst the highest influenced factors in making investment decision of international investors. Off-shore companies prefer to choose and cooperate with partners who has convenient location, modern infrastructure and quality logistics service to build a system of collecting, transporting, storing and distributing optimally between two counterparts.

Logistics is industry having high profit margin, contribute tremendous share in State budget, build a foundation for other industries's growth. Logistics has its own value added, account a considerable amount in national revenue, force Vietnam economic restructure in recent years. Logistics service develops concurrency stimulates diversifying and merging transportation concepts together to reduce cost on a large scale. From that, transport system as well as advanced science technology application strongly develop, create economic leverage for related industries, and fundamental basement ensuring Vietnam sustainable growth.

2.4.2 Business microcosmic strategy

Managing information effectively in logistics brings about sensitively proactive ability to what market needs, from that, businesses have the appropriate strategy to prepare for single change and occupy market timely.

An entrepreneur with well knowledge about incoterm, procedure, document, process in logistics has a powerful advantage in tender conferences, in comparison with the others. Besides, the seller (shipper in logistics term) can have the better deal when making negotiation with the buyer (consignee in logistics term), for example, instead of using incoterm EXW with cheapest price deal, the seller can utilize FOB, DDP term for maximizing revenue and responsibility in contract.

As written in the book "The Natural Organization of Outsourcing and Insourcing", nature always seeks the way to evolve consuming in the minimum amount of energy. Cooperation saves energy in some case, but competitiveness save energy in other situations. (Peter Belohlavek 2007, 12)

The integration of both is a fundamental of business organization, as well as human behaviour. (Peter Belohlavek 2007, 12)

Interdependence is a natural way to organize in developed countries. Independence is a natural response in immature cultures. (Peter Belohlavek 2007, 12)

Therefore, outsourcing is "extremely" effective in developed markets and an unbalanced methodology in immature markets. (Peter Belohlavek 2007, 12)

Outsourcing is a synergic cooperative operation to increase productivity and reduce costs based on specialization and quality. (Peter Belohlavek 2007, 12)

While outsourcing has been a factor in the logistics industry for centuries, in recent years there has been a dramatic growth in the contract or ‘‘third party’’ logistics industry. As provider firms have gained efficiencies and sophistication and increased their service offerings, an increasing number of firms have entered into strategic alliances or partnerships with one or more logistics service companies. Therefore, to avoid being manipulated by third party logistics companies and to take advantage of them, the firms have to arm knowledge, information about this logistics industry.

When enterprise can manage inbound, outbound logistics and reverse logistics effectively, it can optimize the efficiency and gain positive results.

2.4.3 Warehouse definition

A warehouse building is basically a weather protection device to store invested capital in the form of goods and to provide workspace for the people and equipment who must handle these goods and deliver them to customers or to manufacturing operations. (Jerry D. Smith 1988, 295)

Warehouse is a part of logistics system; where material, semi-finish product and finish product within rotate process from begin to the end point of supply chain, at the same time provide information about status, store condition and location goods stored.

Warehouse is indispensable section in logistics chain. To serve for social life demands, there is existence there is storage, from modern one with high specialization of logistics company, transportation side, terminals, to private storage of corporation, firm, manufacture, to resident barn for appliances, garden tools.

Logistics warehouse assists economic transaction cycles. Economy only may grow agilely, synchronously when logistics chain has continuous-operating storage.

Along with the time, role of warehouse management is more claimed and appreciated and develops.

2.4.4 Warehouse classification

On the world, there are a thousand of the ways and elementary to divide the warehouse typologies. In the 1800s, warehouse is classified simply by its function and location, for example, these types are listed below:

Retail warehouse: It displays goods for trading. This would be finished goods- such as the latest appliances or fashion items. (Wyke, Terry 2012)

Cool warehouse and cold storage: Warehouses where perishable goods are stored and refrigerated. Products stored can be, amongst other things, food, especially meat, other agricultural products, pharmaceutical drugs, other chemicals and blood. (Public Health Reports 1976; The Annals of the American Academy of Political and Social Science 1913)

Oversea warehouse: These catered for the overseas trade. They became the meeting places for overseas wholesale buyers where printed and plain could be discussed and ordered. (Wyke, Terry 2012)

Fulfillment warehouse (or packing warehouse): The main purpose of packing warehouses was the picking, checking, labelling and packing of goods for export. (Wyke, Terry 2012)

Railway warehouse: Warehouses were built close to the major stations in railway hubs. (Wyke, Terry 2012)

Canal warehouse: A commercial building principally associated with the expansions of canals from 1761 to 1896. Canal warehouses were transshipment warehouses, holding goods until they could be shipped out to their next recipient. (Nevell, Mike; Walker, John 2001)

After World War II, logistics is more valued and developed powerfully than ever, new typologies of warehouse are originated concurrently such as:

Public warehouses: Public warehouses are owned by governmental bodies and made available to private sector companies. (Jules 2019)

Private warehouses: A private warehouse is a warehouse which is privately owned by wholesalers, distributors or manufacturers. Large retail and online marketplaces also have their own privately-owned warehouses. (Jules 2019)

Bonded warehouses: A bonded warehouse is a type of warehouse that can store imported goods before customs duties are required to be paid on them. Authorities give companies using them bonds when they rent space with them to ensure they don’t face monetary loss at the time their products are released. (Jules 2019)

Cooperative Warehouses: A cooperative warehouse is a warehouse which is owned and run by cooperative organizations like a farmer or winery co-op. (Jules 2019)

Government Warehouses: These warehouses are directly owned and controlled by the government, such as seaport storage facilities. (Jules 2019)

Distribution Centers: A distribution center is a storage space which is usually built with specific requirements in mind. (Jules 2019)

Smart warehouses: A smart warehouse is a type of warehouse where the storage, fulfillment process and management are automated with AI. Automation typically includes everything from software for management to robots and drones performing tasks like packing, weighing, transporting and storing goods. (Jules 2019)

Consolidated warehouses: A consolidated warehouse is another type of warehouse that takes small shipments from different suppliers and groups them together into larger shipments before distributing them to buyers. (Jules 2019)

2.4.5 Warehouse function

Nowadays, warehouse is utilized as a "transshipment" than a "merely long-term storing" as before. Organization is collecting and updating the information from forecasting demands and product capacity to improve logistics activities to cut down inventory amount, create convenience in purchasing and finish product, save freight cost and other services.

In manufacture

Techinically, the basic warehousing functions in the manufacturing environment are: receiving raw materials, storing raw materials, kitting raw materials, releasing raw materials, receiving work in process, storing work in process, kitting work in process, releasing work in process, receiving finish goods, storing finish goods, picking finish goods, shipping finish goods.

Manufactures can save the transportation cost what if factory might be located far from supplier places. Organization can gather batches of delivery to a big shipment in order to deliver at one time by cross-docking warehousing method.

In some case, semi-finish products can move toward next assemble lines, they will be stored in storage to make condition, space for production smoothing. JIT- Just-in-case system which aims to minimize the probability that a product will sell out of stock is applied optimally.

Overall, warehouse does not only protect properties such as machines, materials and types of product from external damage but supply them precisely time and place to factory by modern system management software.

In merchandise

Goods could be purchased in greater quantities than are needed so as to archive cost efficiencies in purchasing or transportation. When goods are purchased in this way,

some inventory are result. However, a business enterprise which has effective warehousing can make agreement called “volume purchase orders” (blanket POs) or call-off order may be established. These allow for increasing discounts as volumes increase and, at the same time, specify that deliveries occur pro re nata.

Middle warehouse (also called as distribution center) shortens the distance between manufacture (seller, shipper) and customer (buyer, consignee), that facilitates organization basement for cope with relentless market’s demand changes.

Last but not least, the reverse logistics process, which is utilized by leader corporation in consumer industry such as H&M, IKEA as one of role strategy, entails the movement of used products from the point of consumption back to the point of origin for the purpose of either recapturing value or proper disposal of wastes. Optimization of the reverse logistics process in the warehouse aims to reduce the price and time associated with processing returned goods, reduce the inventory levels of returned products, decrease the disposal time of the products, and maximize customer satisfaction. When done successfully, this can lead to more loyal customers, sustainable brand image, increased sales, and a possible competitive edge in the 21th century marketplace.

If companies wish to handle returns efficiently, they have to consider expanding or optimizing your warehouse space. Research from CBRE estimates that the reverse logistics process will require an additional 20% more space needed for traditional processes than outbound ones. (CBRE 2018)

2.4.6 Warehouse management structure

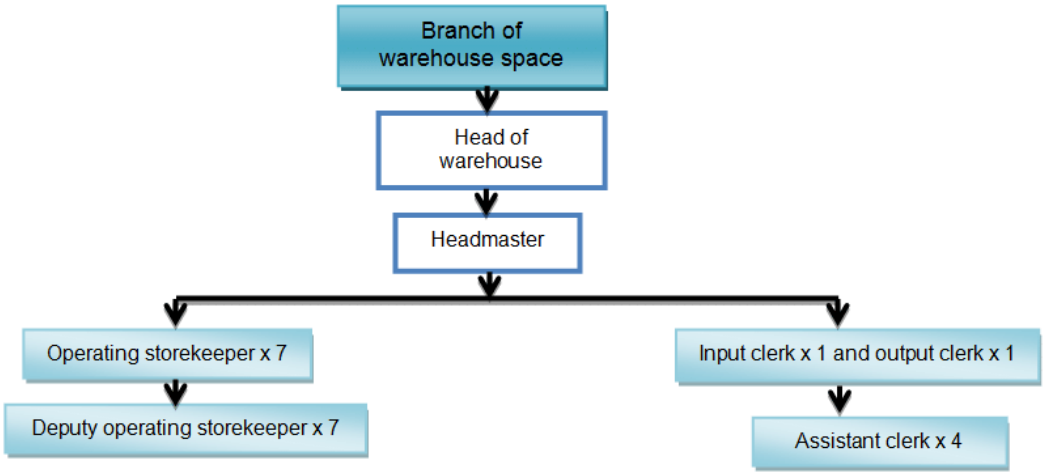

Figure 3 The organizational structure of the department warehouse in HIP "Petrochemical j.s.c" (Nenad, & Dragan, & Velibor 2013)

2.5 Inventory

2.5.1 Why does company need inventory?

In a just-in-time manufacturing environment, inventory is considered waste. However, in environments where an organization suffers from low cash flow or lacks strong control over, inventory plays important roles. Some of the more important reasons for obtaining and holding inventory are:

Predictability: In order to engage in capacity planning and production scheduling, company need to control how much raw material, parts, and subassemblies it process at a given time. Inventory buffers what company need from what it process.

Fluctuations in demand: A supply of inventory on hand is protection: Business do not always know how much you are likely to need at any given time, but you still need to satisfy customer or production demand on time. If you can see how customers are acting in the supply chain, surprises in fluctuations in demand are held to a minimum.

Unreliability of supply: Inventory protects firm from unreliable suppliers or when an item is scarce and it is difficult to ensure a steady supply. Whenever possible unreliable suppliers should be rehabilitated through discussions or they should be replaced. Rehabilitation can be accomplished through master purchase orders with timed product releases, price or term penalties for nonperformance, better verbal and electronic communications between the parties, etc. This will result in a lowering of your onhand inventory needs.

Price protection: Buying quantities of inventory at appropriate times helps avoid the impact of cost inflation. Note that contracting to assure a price does not require actually taking delivery at the time of purchase. Many suppliers prefer to deliver periodically rather than to ship an entire year's supply of a particular stock keeping unit (SKU) at one time. (Note: The acronym "SKU," standing for "stockkeeping unit," is a common term in the inventory world. It generally stands for a specific identifying numeric or alpha-numeric identifier for a specific item.)

Quantity discounts: Often bulk discounts are available if enterprise buy in large rather than in small quantities.

Lozver ordering costs: If company buy a larger quantity of an item less frequently, the ordering costs are less than buying smaller quantities over and over again. (The costs of holding the item for a longer period of time, however, will be greater.) In order to hold down ordering costs and to lock in favorable pricing, many organizations issue blanket purchase orders coupled with periodic release and receiving dates of the SKUs called for.

2.5.2 Types of Stock

Inventory basically falls into the overall categories of raw materials, finished goods, and work-in-process. In which:

Raw materials: Used to produce partial products or completed goods.

Finished product: This is product ready for current customer sales. It can also be used to buffer manufacturing from predictable or unpredictable market demand. In other words, a manufacturing company can make up a supply of toys during the year for predictably higher sales during the holiday season.

Work-in-process (WIP): Items are considered to be WIP during the time raw material is being converted into partial product, subassemblies, and finished product. WIP should be kept to a minimum. WIP occurs from such things as work de-lays, long movement times between operations, and queuing bottlenecks. (Muller, M., 2011).

Other categories of inventory should be considered from a functional standpoint:

Consutnables: Light bulbs, hand towels, computer and photocopying paper, brochures, tape, envelopes, cleaning mate-rials, lubricants, fertilizer, paint, dunnage (packing materials), and so on are used in many operations. These are often treated like raw materials.

Service, repair, replacement, and spare items (S&R Items): These are after-market items used to "keep things going." As long as a machine or device of some type is being used (in the market) and will need service and repair in the future, it will never be obsolete. S&R Items should not be treated like finished goods for purposes of forecasting the quantity level of your normal stock.

Quantity levels of S&R Items will be based on considerations such as preventive maintenance schedules, predicted failure rates, and dates of various items of equipment. For example, if an organization replaced its fluorescent tubes on an as-needed, on-failure basis, it would need a larger supply of these lights on hand at all times. However, if the same company relamped all of its ballasts once per year, it would buy a large quantity of tubes at one time and only keep a small supply on hand on an ongoing basis.

Since S&R Items are never "obsolete" or "dead" until the equipment or device are no longer used in service, these items should not be included in calculating deadstock levels. (Muller, M., 2011).

3 EMPIRICAL THEORY

3.1 Status of DKSH Vietnam Co., Ltd warehouse system

DKSH Vietnam Co., Ltd. was issued investment license: 019/GP-KCN-VS. 24/02/1999 by Vietnam- Singapore Industry Zone management board.

Scope of activities: Provide bonded warehouse service, transportation and marketing service for nutritional products, human health care products, pharmaceuticals, chemicals, veterinary medicine, mechanical products, office equipment, lubricants additives, car brake parts, battery packs and batteries for cameras, electronic equipment and cleaning equipment; product packaging and relabeling services; purchasing seafood in Vietnam for export abroad. Exporting pharmaceutical products in Vietnam to Cambodia.

AST is enterprise with 100% foreign owned capital at Vietnam belonging to Swiss DKSH Group, Muehlebachstrasse 20, 8032 Zuerich, with 18 business location cluding offices, distribution centers and cross docks in Ho Chi Minh City, Binh Duong, fHanoi, Da Nang and Can Tho and many other cities, across the country and 5,800 employees. is one of the biggest providing logistics service company, furthermore, constantly strive to bring world-class standards to industries in Vietnam while also contributing to the development of local communities. Diethelm VN is one of the major companies providing logistics services in the pharmaceutical industry. The company obtained ISO 9001:2000, 9001:2008 certificate.

	31/12/2019	31/12/2018	31/12/2017
Total Assets	5353	4895,4	4645
Total Liabilities	3578,7	3185	3068,6
Owner’s Equities	1774,3	1710,4	1576,4

Table 1 DSHK’s annual finance report (in CHF millions)

Organization structure

Name	Job title
Jorge Martin-Martinez	Head Country Management Vice President, Indochina Finance
Phillip Wray	Vice President, Healthcare
Ton Nu Tuyet Anh	Co-General Manager, FMCG
Ho Mai Ho	Co-General Manager, FMCG
Tran Thi Thang My	Co-General Manager, Performance Materials
Hoang Thi To Nga	Co-General Manager, Performance Materials
Robert Puschmann	Managing Director, Technology
Nguyen Thi Vinh Thanh	Senior Director, Country Human Resources
Nguyen Lan Huong	Senior Director, Country Legal & Corporate Affairs
Pham Duy Khiem	General Manager, Supply Chain Management
Hua Tran My Phuong	Director, Country IT Management

Figure 4 Country manager list

3.2 Development history in Vietnam market

DKSH Vietnam was originally established in 1890 when we began business activities in Saigon and Haiphong. For the next 60 years we were active in importing consumer and pharmaceutical products and also representing shipping lines and insurance companies. We withdrew from Northern Vietnam in 1954 and from Saigon in 1955.

DKSH reentered Vietnam in 1991, around 100 years after our initial entry. Attracted by the government's "open door" policy in the early 1990s, we obtained an operating license for DKSH Vietnam Co., Ltd.. as a fully foreign invested enterprise providing sales, marketing and logistics services in 1999.

In 1999, the company rented a warehouse of 5,000 m2 at the built-in house, Road 9, VN Singapore Industrial Park.

In 2002, the Company built on an area of 12,200 m2 at 23 Independence Avenue, Vietnam Industrial Park - Singapore. The storage capacity of the logistics center phase I is 3,500 pallets. Open warehouses in Hanoi, Da Nang and Can Tho.

In 2004, opened another inventory of consumer good in Hanoi. At the end of 2004, completing phase 2 logistics center with a capacity of 4,500 SVTH pallets.

In 2005, Diethelm Logistics Centre the country's largest logistics and warehousing center, opened in Binh Duong Province, about 30km from HCM City which covers 12,200 sqm at the Viet Nam-Singapore Industrial Park in Thuan An District, is installed with the state-of-the-art equipment, capable of storing 8,000 pallets and covering of more than 20,000 retail outlets nationwide.

In 2008, DKSH Vietnam logistics center in Vietnam-Singapore Industrial Park has just inaugurated the international standard warehouse complex for the pharmaceutical industry, with a capacity of 22,000 pallets for the country.

In 2009, we changed the company name from DKSH Vietnam Co., Ltd.. to DKSH Vietnam Co., Ltd. to contribute to the formation and launch of a unified and global DKSH brand in 35 markets.

Its continual upgrading of existing distribution and operation network reflects the company's ongoing commitment to providing comprehensive and customizable Market Expansion Services in Vietnam and throughout the region. During the last amazing 20 years, enterprise have been developing our robust facilities with 18 business locations including state-of-the-art distribution centers, crossdocks, warehouses and offices across the country.

3.3 Situation of pharmaceutical warehouse at DKSH Vietnam

Requirements for technical storage of pharmaceutical products (material flow)

Principles of storage / preservation is raw materials and pharmaceuticals must be stored under the appropriate conditions as indicated on the label (this condition is based on data).

Storage conditions are usually dry, cool, temperatures 15-25 ° C (sometimes up to 30 ° C), protect away from direct sunlight or sources of contamination.

Special storage conditions ask for specific temperature and humidity depending on the object: Deep refrigerator (-10°C); Cooler (2- 8°C); Cold storage (<8°C); Cool (8- 15°C), Air conditioner (15- 30°C), warehouses have dehumidifier.

Must understand the meaning of the storage requirements on the label: Label requirements. Storage conditions, for example:

- Do not store higher than 30 °C (from 2 °C to 30 °C)
- Do not store higher than 25 °C (from 2 °C to 25 °C)
- Do not store higher than 15 °C (from 2 °C to 15 °C)
- Do not store higher than 8 °C (from 2 °C to 8 °C)
- Do not store lower than 8 °C (from 8 °C to 30 °C)
- Avoid moisture: Humidity not exceeding 60%

Avoid light: Provide medication to the patient in a light-proof with must-have records of storage such as temperature and humidity. The temperature and humidity

monitoring equipment should be checked before use and checked periodically. Records of temperature and humidity should be kept for one year after the expiration of the raw material or finished product.

All raw materials or pharmaceutical products must be stored in containers or packages in a way that avoids the influence of external factors or contamination (especially for sterile drugs). All containers must have clearly label and all details (no acronyms, names or unofficial codes should be included): material name - production batch number - expiry date (or retest date) according to which pharmacopoeial criteria storage conditions Perform storage and dispensing according to procedures and records.

In general, Diethelm guarantees technical standards, but there is no temperature mapping at all storage areas in the warehouse and in areas where temperature fluctuations have not been set. monitoring equipment, toxic cargo area has not met regulations, not completely separate this area.

3.3.1 Main operating procedures at DKSH warehouse

Procedure of receiving goods

a. Purpose: To ensure that the quantity and quality of goods received is consistent with the imported documents and entered into system to be ready on stock.

b. Scope: All goods received at central distribution center warehouse.

c. Responsibilities: Warehouse Supervisor & Consignee Team Leader, Consignee

d. Definition and terminology: BU- Business Unit, EDP- Electronic Data Processing, A/N- Arrival Notice, RRC- Regional Replenishment Center, GRN- Goods Received Note.

e. Relevant documents: Import record, purchase invoice; packing list.

f. The procedure

f.1 BU procedure will inform the relevant warehouse supervisor with information about the entry of the cargo, the name of the goods, the carrier, the expected arrival time, the quantity & the stocking condition.

f.2 Warehouse supervisor arrange manpower preparation, location to receive the shipment.

f.3 When receiving the goods, the consignee must conduct the goods inspection in accordance with the instructions for importing goods and inspection should be conducted in accordance with the inventory plan list in section 8 of this procedure. The counting staff must tally, record on the goods tally sheet and then give the tally sheet to the warehouse clerk to check against the imported documents. The

warehouse secretary must ensure that all entry documents are complete such as invoices, quotation marks, contracts, customs declarations, and list of imported goods. Deviations (if any must be) recorded in the minutes.

f.4 After the above works are completed, the receiving team must load all goods on pallets according to standard specifications. Damaged goods will be separated and labeled "Unqualified" in accordance with the instructions for importing goods to Claim department to process properly. For domestic goods that do not need to be packed and labeled, it will be labeled "released" for goods to be packed and labeled. The label will be delivered to the packaging department for processing.

After completing the above procedures according to f.4, the delivery team leader will hand over the A/N and all documents to the EDP for input into the system.

Based on the above information, the EDP will prepare the GRN, and give it to the leader of the receiving and monitoring team to confirm.

g. Documents and reports: Notice of importing drug products, Notice of consumer goods

h. DVLCDC Inspection Plan

Shipment Quality	Sampling Quantity	Acceptance Quantity	Denial Quantity
2-8	2	0	1
9-15	3	0	1
16-25	5	0	1
26-50	8	0	1
51-90	13	0	1
91-150	21	1	2
151-280	34	1	2
281-500	55	2	3
501-1200	89	3	4
1201-3200	144	5	6
3201-10000	233	7	8
10001-35000	377	10	11

Table 2 DVLCDC Inspection Plan

A sample consists of one or more units derived from a lot. Samples were taken randomly and scattered. The number of sample units must be the same size.

The decision to accept the lot includes the following criteria: The number of samples to be tested should be the same as on the sampling list. If the number of defect units in the sample is equal to or less than the acceptable quantity for the consignment. If the number of defective units in the sample is equal to or greater than the rejected number, the shipment is held for inspection by the firm.

Fault definition: Any SKU with damaged housing, deviation in weight, seal is torn, shows signs of opening no longer in its original condition, leakage, corrosion, abrasion, cuts, deformation, labeling legal.

Procedures for loading and storing

a. Purpose: Ensuring the order is placed in accordance with the specified location
b. Scope: Including all goods stored at DVLCDC.

c. Responsibilities: Warehouse supervision, Warehouse leader, staff.

d. Relevant documents: Shipment slip.

e. Definition and terminology: DVLCDC- Department DKSH Vietnam Logistics' Central Distribution Center, SKU: Store Keeping Unit.

f. Procedure:

f.1 EDP prints the voucher on goods and sends it to the drug store after receiving the notice of loading from the warehouse to place the order on the shelf system.

f.2 Supervising the responsible warehouse responsibility for the rotation of goods in the warehouse according to DVL.CDC's warehouse management system.

f.3 All goods must be stowed on a wooden pallet in accordance with the correct specifications to increase storage capacity and avoid contamination.

f.4 Each product is properly stacked on a plastic / wooden pallet, paying attention to the weight and size of the box to avoid heavy loading on the shelf. The maximum height of the package must not exceed 1.6m. Each product will be marked by name, storage unit #, Lot #, Volume, and quantity. It is the responsibility of the warehouse supervisor / warehouse staff to ensure that product labels are facing out for easy identification while packing. All goods, after being repacked, will be labeled to differentiated as date of packing, expiry date, quantity

g. Profile: Delivery note

Process of composing, packing and delivering

a. Purpose: To ensure that all goods are 100% correct before delivery to customers.

b. Scope: Including all activities of composing and packing goods at CDC's warehouse.

c. Responsibilities: Supervising the pharmacy and consumer warehouse, Team Leader & Warehouse Staff d. Definition and terminology: HEC - pharmaceuticals. EDP- Data processing.

e. Relevant documents: Sales invoice.

f. Procedure

f.1 Warehouse receives the delivery note and invoice from EDP before 1:00 pm to prepare the goods.

f.2 The warehouse supervisor reviews the order. In case of failure, it must notify the EDP department for handling.

f.3 The drafting staff proceeds to compose each delivery note. Warehouse staff must ensure that the goods are prepared according to the principle of first expire- first out deadline close (FEFO), the quantity of goods compiled correctly with the release note and sign the release note to ensure accuracy.

f.4 Packing group must ensure packaging in accordance with the invoice, invoice and check the item, quantity, lot + expiry date + visa & prescription against invoice.

f.5. The warehouse supervisor must ensure that the goods are packed and ready to be shipped according to the shipment schedule.

f.6 Pack team leader delivers the deliveries to the shipper and gets a signature. Receipt of goods on the list of goods & invoices.

f.7. One copy will be kept and one will be sent to relevant sales.

g. Delivery note: Check list, Delivery schedule

Control and inventory management

a. Purpose: To ensure that the goods in stock are checked and not lost

b. Scope: Include all goods in the warehouse and warehouse operations

c. Responsibilities: Warehouse Supervisor, EDP Supervisor, Logistics Manager

d. Definition and terminology: WHSE- Warehouse; EDP- Electronic data processing; WMS- Warehouse Management System; DVLCDC- Department DKSH Vietnam Logistics' Central Distribution Center, SKU: Store Keeping Unit.

e. Relevant documents: Inventory slips

f. Procedure

f.1 Inventory management

f.1.1 Warehouse monitor is responsible for storing stock in stock and accurately reporting the amount of loss / damage

f.1.2 Warehouse Supervisor responsibility for circulation and use of the documents.

f.1.3 All sorting, relocation, and relocation must be updated in the system as required, but not later than 24 hours.

f.1.4 The warehouse must ensure the handling is based on the principle of is FIFO (First In First Out) which means that the most near-term stock in the warehouse will be shipped first, unless otherwise agreed by business partners.

f.1.5 The warehouse must regularly check long-stock goods to prevent damage to the goods.

f.1.6 Different items are not allowed to share pallets.

f.1.7 All relocation, movement of pallets in stock must be regularly updated to the system.

f.2 Practical inventory investigation

f.2.1 Inventory investigation of all goods

f.2.1.1 The purpose of daily inventory is totally stock real against the system.

f.2.1.2 Order processing will be completed at around 15:00 every day for all imports and exports to be updated to DVL's inventory system – WMS.

f.2.1.3 EDP staff will print inventory check and assign to the warehouse supervisor group to conduct inventory. Each staff member designated to inspect the stockpile must ensure: Writing in ink the number of items on the inventory check; Stating changes in product quality such as: damage, dirt.

f.2.1.4 After finishing, the team leader will give inventory to the EDP department to enter the actual count into the system. To find out the difference between the actual data and on the system.

f.2.1.5 After receiving the deviation report from the warehouse supervising EDP department, the reason for the deviation will be checked. Warehouse monitor reports damaged goods with the approval of the warehouse manager. Report of damaged goods after approval and false report will be sent to the head of Claims for handling according to the damaged goods handling procedure.

f.2.2 Quarterly inventory of all goods.

f.2.2.1. The warehouse will conduct inventory quarterly under the supervision of the representative appointed by the company.

f.2.2.2. The warehouse must ensure tallying based on the system's documents and ensure that it does not obstruct business.

f.2.2.3. During the inventory period, the warehouse must stop working from the specified time until a representative of the company is present to conduct investigating the inventory.

f.2.2.4 Monitoring & inspection are going to conducted in coordination with group of warehouse staffs and their company representative must know the product & pallet specifications, as well as the layout and location of the goods. The company representative plays the role of monitoring & inspection.

f.2.2.5 All inferior goods should be segregated from good quality.

f.2.2.6 Inventory monitor / team leader must make false report after inventory

f.2.2.7 Warehouse monitor investigates errors in inventory process

f.2.2.8 If no errors, the similar reports will also be confirmed and sent to the logistics manager for approval. Misleading reports of damaged or lost goods must be approved and approved by the logistics manager.

f.2.2.9 Reporting of damaged, misleading and damaged goods will be assigned to the breakdown department supervisor for daily inventory handling of loading positions. Every day, warehouse staff must tally the goods at composing positions. The EDP department will print the inventory for checking. Warehouse supervisor conducted inventory check and ink pen and count on the inventory. After tallying, the team leaders will give the checklist to the EDP department for inventory reporting. The warehouse supervisor will check and send to the EDP to check the inventory between the system and the reality and conduct an investigation if there is a deviation or damage and properly handle damaged goods. after obtaining the approval of the logistics manager. Warehouse supervisor will deliver all documents and damaged goods to the damaged goods management department for handling.

Returned Goods (Reverse Logistics)

a. Purpose: The goal of this process is to ensure that returns are monitored and recorded on a daily basis.

b. Scope: All consumer goods returned on the market, goods delivered to DVLCDC warehouses from branches and goods delivered from branches to pharmaceutical warehouses.

c. Definition and term Returned products: products that are not in accordance with customer requirements, damaged products and products with a short shelf life or expiry date.

Notice of Return - 1 goods returned within 03 days from the date of invoice printing, within 07 days for remote provinces. 2 items returned 7 days after the date of invoice, in the fiscal year and with the permission of the sales department.

EDP firm - Electronic Data Processing Division; OPU- Order processing department, BTA Branch Delivery Notice

d Responsibilities:

d.1. Delivery staff / collaborators are responsible for accepting returned goods according to regulation

d.2. Warehouse supervisor to ensure proper implementation of this process

e. Related Documents: Invoice

f. Procedure

f.1 Goods returned from the depot branch receiving damaged / obsolete goods returned from other distribution centers. Rows will be moved to the location indicated on the GRA. Form GRA is used for returns. Warehouse monitor checks, approves and sends to EDP for updating into WMS. EDP employee signs the update to the system in GRA. Rows will be put in the specified location.

f.2 Returned Goods from Market

f.2.1 Returned Goods will be returned by forwarders and sales forces, subject to the conditions set out and the sales force must ensure complete customer signatures, financial invoices, and the conditions are obtained prior to delivery of documents and goods returned to the warehouse.

f.2.2 When receiving returns, warehouse staff must ensure that all TRA 1 and 2 have been agreed and verified by an authorized person, then carry out an inventory and compare the actual quantity with the evidence words, invoices.

f.2.3 After receiving the goods, warehouse staff must separate and label Unqualified Release (for good) to differentiate. Damaged warehouse staff are responsible for sending all documents and invoices to the order-making department (OPU) for confirmation and updating into the system.

In case of changing goods for customers, warehouse staff must fill out the delivery note form signed by the warehouse manager and then transfer to the order-checking department. (OPU) to confirm and update the system. Orders that are not delivered must be updated to the system by OPU. Based on the confirmation of the consignee, good, qualified products will be transferred to the warehouse for sale. Damaged and substandard products will be sent to the damaged warehouse. For non-qualified

goods, the damaged warehouse supervisor must send stock transfer request form to EDP to transfer the data from the stock warehouse to the damaged warehouse. The EDP department confirms that the system has been updated after the transfer has been completed.

4 RESEARCH METHODOLOGY

4.1 Research method

The two primary types of research approach are the qualitative method and quantitative methods. These research methodologies differ not only in their philosophy, but also in their methods of data collection, models, and procedures applied in data processing and analysis. This study adopts qualitative research as the primary research method. Patton and Cochran (2002, 2) have defined qualitative research as follows:

"Qualitative research is characterised by its aim, which is related to understanding some aspect of social life and its methods which (in general) generate words, rather than numbers, as data for analysis."

The qualitative approach is used to identify the different aspects of participants, to explore the meaning of phenomenon, or to discover a process cautiously (Patton & Cochran 2002, 7). There are several reasons for choosing a qualitative approach as the main research methodology for this research. Firstly, the main research question is how the company has managed the warehouse and the advantaged as well as disadvantaged of those method. Thus, the qualitative method, which is often used to explain the complexity and different perspectives of issues, is indeed necessary to identity the various aspects within the development of managing entrepreneurship. Moreover, with a long history in sociology, the qualitative method allows the researchers to investigate the meanings of human behaviors, actions, and their relationships in improving productivity of warehouse. The flexibility of the qualitative method is the second reason for employing it in this study. With mostly "open-ended" questions from this method, the interviewees can freely choose their own words and tell their own stories. This is a significant advantage in this research because the information from their stories can be useful to analyze their business development process. Moreover, this research also focuses on how people react and reach their decision, and qualitative research is often adopted in the social sciences for collecting and gathering information, which is especially crucial for the behavioral sciences because they investigate interviewees' underlying motivations through indepth interviews. Other methods, such as word association tests, sentences association tests, or story completions test are also used for behavioral research. The qualitative method helps to analyze miscellaneous factors that motivate people to behave in a specific manner. (Kothari 1990; Crossman 2017). The final reason for choosing the qualitative methodology is the lack of hypothesis and statistical data. The consideration between qualitative and quantitative method depends on the availability of projectable data.

4.2 Research design

With choosing qualitative methodology, the chosen research tool is conducting individual interviews. In order to produce contextualized descriptions, the aim is to

investigate company information and, what method they use to manage the firm's warehouse, how much they can afford for innovation, through individual interviews. One on one interviews allow researchers to adapt with the conversations, and flexibly adjust the questionnaires during the interviews (White etal., 2018). Due to the geographical obstacles (the author/ interviewer is in Finland and the experts/ interviewees are in HCMC, Vietnam at the time this thesis is written because of the Covid-19 quarantine), the interviews will be conducted virtually. The recommended interview channel to interviewees is through video call such as Skype, Zoom, Google Hangout. However, if the interviewee does not manage to schedule for the interview, the questionnaire will be communicated between emails of the researcher and the expert. Otherwise, the questionnaire will be sent to interviewees as reference for advance preparation. The interview time will be agreed by the author and the experts, and the interview will be conducted accordingly via the app which is chosen by interviewee. The voice interview will be recorded under the consent of the interviewee. The questionnaire is designed based on the thesis's purpose and company status, which is to effectively optimize the quality and productivity of DKSH VN warehouse.

The questionnaire's content is centralized with following indicating keywords: management method, advantages, disadvantages, opportunities, threats, capability. The questionnaire is structured with four topics which go straightly to the center of existing problem. Within topics, there are questions that go into details and seek for deeper information. This structure is designed with the idea of beforehand noticing the interviewees which topic they are approaching, before going into detail. The purpose is to maintain the flow of the questionnaire's progress, and to prepare the interviewees for the upcoming topic, in order to adapt with the topic and, to avoid providing mixed and overlapped answers. The questionnaire thrives to include open questions, or open questions associated with supporting closed question which is raised at the same time with the open question.

The reason for the prioritized type of question is to determine high level management's opinions and certain issues in warehouse managing on the researched topic in the literature review, instead of to simply decide whether the written theories are correct or incorrect. Moreover, the number of questions assigned for each topic discussed in the theory part is not divided equally in the questionnaire.

4.3 Collection of data

The questionnaire was obviously created in English, in order to maintain the objective content integrity between the literature review of the thesis and the questions. The questionnaire was later translated into Vietnamese for the sake of ease for the experts, whom are Vietnamese and foreigner.

The interviews could be conducted through two channels, video calls and email. Two top managers of Diethelm VN were invited to participate in the empirical study of this thesis as interviewees. All of them managed to conduct their interviews via Skype video call. Besides, the questionnaire was sent in Word file to the personal

email of the managers and then the filled questionnaire was sent back two days later with the purpose of create opportunity for them preparting and have the raw answer on paper as another record.

Although the interviews are video, the records are audio file format in order to protect the interviewee image. Audio calls were recorded under the acknowledgement of the interviewee. Specialized recording software was installed and utilized during the interview call, instead of already integrated one in the audio call software, in order to maintain the high quality of the audio. Besides, the researcher also took notes during the interview call. The records were exported into professional sound type of file, .mp4. Right after the call, a transcript was created based on the record and the note in Word file. The content of the four transcripts withdrawn from the interviews will be the foundation for the following data analysis.

4.4 Data analysis

4.4.1 Introduction

Two managers agreed to participate in the empirical study of this thesis, whom will be introduced with their title, years of industrial experience, and their position are directly related to the researched field.

Pham Duy Khiem is currently the general manager of Supply Chain Management in DKSH Vietnam Co., Ltd company. He has over ten years of Supply chain sector experience, with almost three years working for DKSH Vietnam allow him an in-depth understanding about company and most comprehensive look.

The second manager, Robert Puschmann is senior technology managing director at DHSK, with over almost 6 years of experience in Singapore and Malaysia market and over 3 years of regional management (Singapore, Malysia and Vietnam).

In the analysis, all of the directors will be addressed with full name, with the purpose of showing respect for their contribution to the thesis. The data analysis will be divided according to the questionnaire. Each topic studied in the theoretical study will be reserved a heading in the analysis. The purpose is to separately analyse and conclude each question, which, at the same time, determine managers' insight on the analysed topic. The analysed heading will initiate with the list of consisted questions, then the interpretation of interviewees's insight, and the author's analysis.

4.4.2 Implementation

Question 1: How does company manage the warehouse? Advantage and disadvantage?

Following the transcript and answers from the interviewee with Robert Puschmann, researcher can summarize and analyze as the following information.

Warehouse management is processed following information flow and using barcode scan method.

Product identification is first main step in process. The goal of inventory identification is to determine a fixed location in the warehouse. DKSH Vietnam is currently applying a machine-readable identification on a board or label: In this method, digital printers print the position onto the label. The position can be printed by letters or numbers, staff stick or hang labels / boards outside the product.

The downside of this method is the high cost of the label, the investment in equipment and software, as well as the installation area and time required to print the labels.

The advantages of the method are clear and uniform identification, medium capital investment, low labor requirement, and the labels can be pre-printed to avoid the cases where the labels are wrong.

Secondly step, method of checking the job of entering and taking rows play the fundamental role. Barcode scanner is formatted to read numbers / codes, barcode labels will be affixed on goods by hand or the handheld scanner and machine will transfer data to the server or store the data for later importing into a computer. The operation of this method is as follows: First, before picking up goods at the loading area, the forklift operator will receive a put - away list, then the operator uses the device.

Scan the handheld barcode scan product label, take the product and place it at the predetermined location, scan the location label (barcode) using the handheld scanner. Information about this business will be transferred to the server for inventory updates, this information is immediately transferred to the network or temporarily stored for later transfer.

The disadvantages of this approach are capital investment, staff training, increased discipline and management control, storage systems and the ability to process information transfers on the network. The advantage of the method is that it can handle large volumes, provide and transfer accurate records data, and are highly productive.

In phase of inventory tracking method, barcode scanning method in composing work: with barcode scanning system, certificates for staff at compiling goods. At the composing position, the employee scans the number of taken goods, then moves to the composing area and scans the label of the composing position. The professional information will be stored on the server computer or entered into cloud system.

The disadvantages of the method are high investment, staff training, increased discipline and management control, memory capacity, and the server's ability to flow information.

Barcode scanning method in tallying: use a handheld scanner to scan barcode labels (line type, unit) affixed to products or composing positions, and enter the checkpoint into the machine.

When scanning required information such as SKU, position number ... will be updated to the computer. Need to check inventory if there is a discrepancy between the inventory book and the updated check count and another employee will check the wrong item. If the actual quantity to be checked is the number that has been checked before, the actual quantity of inventory is accepted as the new inventory.

In general, DKSH Vietnam is applying a product identification method by placing a label on the product, then handwriting the information on the label. Using hand-held barcode scanners in the processes of receiving, composing and tallying products, although this method has advanced compared to manual work in most warehouses in Vietnam, there are still drawbacks compared with methods that have adopted advances in science and technology such as RF (radio frequency scanning device), pick - to light, voice recognition technology (voice recognition technology).

As a leader in Vietnam supply chain, inventory system management are facilitated advanced software system. Currently, DKSH Vietnam Co., Ltd.. has an advantage over companies with warehouse systems in Vietnam (very few Vietnamese companies apply a warehouse management system). Warehouse management software system) has applied eBPCs and EDI

eBPCs: Warehouse management system designed by IBM company (WMS; FIFO: First In - First Out; FEFO: First Expiry - First Out), handling order management, accounting system, human resources Wireless network for all branches nationwide.

Question 2: What do you think about strengths and weakness of warehouse's recent situation?

With the SWOT question related to technology and building structure, mr. Robert is most suitable for getting the answer.

In term of strengths, it is easy to be seen that company pays attention to every single detail in organization.

Warehouse equipment: Medicine storage is located in Vietnam - Singapore Industrial Zone, ensuring conditions to prevent flooding, ventilation, and convenient traffic. The company has invested in building a drug storage warehouse with walls and floors that are built and handled appropriately to ensure stiffness, flatness, moisture and ventilation, ensuring the operation of every means of transportation, easy to protect hygiene. The warehouse is divided into areas for receiving, quarantining, storing, packing and re-labeling and storing before

shipment and shipment. There are separate areas for storing poisons according to regulations, areas for storing substandard drugs, and returned goods waiting for handling. Air-conditioning system with automatic temperature monitoring system (19-250C), and humidity monitoring device (<70%). The fire protection system has been checked and accepted by the Binh Duong Fire Department. The company has equipped a rack system, forklifts, and cargo trucks to meet storage requirements. Firm has been equipped with a nationwide computer system (EDI) to monitor the export, import, and storage of drugs that are assessed and warranted periodically by the supplier (software: daily or at least monthly; hardware: monthly).

The company has developed procedures (SOP), work instructions (WI) for operations at drug storage: importing, exporting, storing, checking and controlling when importing, during the process of preservation and repackaging.

Import and export activities, storage arrangement, and monitoring of storage conditions are carried out on a computer software system combined with comparison with printed documents, ensuring accurate monitoring: Import and export quantity, location and batch number of each drug, drug importing and exporting in accordance with FEFO FIFO principles.

Every day, there is a comparison of inventory with the quantity on a computer. Quarterly, to check and compare all inventory with the participation of related departments. Information, data of the computer system and printed documents are properly stored. There are regulations and implementation of drug quality control upon import, and during storage: For imported goods: quantity control, test slip, sensory examination outside the package. For inventory: randomly check every 3 months, take drug samples to check in detail the sensory status of the drug. There are 6 months to take random samples and send samples for testing at the testing agency (started to do once).

Furthermore, hygiene also is taken care thoroughly. The factory environment is clean with everyday cleaning after working time and general cleaning every month. Personal hygiene procedures, workshop and equipment have been built. Having regulations and conducting periodic health checks for staff.

With the return drug, there are processes for product recall, process of handling returns and conducted procced for unqualified product.

Inspection: There is an inspection process and has conducted a self-inspection according to a developed process.

In order to ensure transparency, fluent flow as well as security of documentation, there are procedures, working instructions for activities related to drug storage: importing, exporting, storing drugs, inspection, quality control, training; records are kept of all company activities: personnel training, manufacturing, testing, quality control, and drug storage.

On the other hand, weakness is unavoidable of every organization that they have to admit and address.

The company has not had a plan to train each employee. The staff who work in hazard environment has not met the regulations yet, besides, factory has not completely separated this area. Arrangement of areas in the warehouse is not really reasonable. The system of temperature-humidity probes is randomly arranged, the coordinates of the probes have not been investigated or studied in a scientifically reasonable way. Employees and employees are not knowledgeable about GSP, professional regulations are also professional, there are errors in the composing work There are no detailed regulations and full control over inventory. Method of checking the job of importing and taking rows.

In the area of importing and exporting goods: (method based on memory). Forklift operators remember pallet positions, this method is very basic and simple. The forklift driver arranges the pallet position by himself, when requested, he immediately arrives at the position of the item and delivers the goods to the required position (composing position, outlet).

The advantage of this method is the low operating cost, no investment required. However, there are many disadvantages such as low labor productivity, high probability of errors, low volume and quantity of goods handled. Difficulty in shift transfer and goods rotation by FIFO method (first in first out).

In cold storage area: (card storage method). This method uses shelf tags located at storage locations. The warehouse keeper will arrange and arrange the row positions according to a predetermined order chart. The driver is responsible for recording arising transactions on the warehouse card, the card content consists of four columns: Name of item, lot number / expiry date, import, export. After completing the work, he has the task of recording in the report book for the storekeeper to update. The advantages of the method are low cost, small investment, easy to implement. But there are many drawbacks such as: manual recording can be ambiguous, confusion can occur, shelf tags can be lost and ultimately unit handling and low volume of goods.

Inventory tracking method: Currently, cold storage still applies inventory tracking by shelf tags, according to this method, all transactions are recorded on the warehouse cards located at the shelves. The warehouse card has the following contents: Name of product, brand name, unit of calculation, specification, date, batch number, expiry date, import, export, inventory, reference number. At the end of the shift or at the time of inventory, the warehouse secretary will update the information on the stock card to the machine. Limitations of this method are required to have warehouse secretary, warehouse staff must take notes often, it takes time, mistakes due to wrong recording or misplaced goods. The implementation of wearing labor protection when entering, leaving, working in the warehouse is not serious. The SOP system is incomplete, the work instructions and implementation are not in accordance with the issued SOPs. Identify products by marking information on self-adhesive labels or using duct tape. The staff carries out the label above, below or next to the row position, then the staff uses a brush, writing or chalk

to write information on the label. The advantage of this method is that it helps to improve labor productivity, low cost of raw materials, easy to stick, remove labels, uniform label pattern and easily change information. However, the disadvantage is that the information written by hand is not clear, easy to confuse and increases labor costs.

Warehouse management software system has not been updated and designed to suit the needs of growth and change.

The real-time system: The ability to synchronize information over time has not met the update request and provide instant information as well as give reports. advertising option for users

Infrastructure such as warehouses, equipment not meeting international standards. There are several areas in the warehouse that are scientifically arranged. Operating costs are quite high, especially labor costs, and locations of warehouses are not yet optimal and low labor productivity.

The composing method lacks science in the organization and arrangement stage. The staff members conduct spontaneous drafting not following a predetermined route. Because of this, labor productivity is very low for the following reasons: employees can move twice on the same aisle; employees are tired of moving and manipulating too much, it is time-consuming for measure ranges of items that need to be compiled.

The situation of warehouse security is not yet strict.

Question 3: What is company's opportunities and threats?

Pham Duy Khiem who take responsibility of supply chain market in Vietnam share in the interview passionately.

When mentioning about the opportunity, the disadvantages of opponent are also enterprise's advantage. As a consequence, company's competitor is fragile but is facing many difficulties. The number of customers is predicted going up in the following time that over their ability.

Vietnam is in the process of integrating into the world economy, Vietnam has joined economic organizations such as IMF, World Bank, ASEAN, APEC and WTO. Vietnam has a more open policy for foreign investors in the field of drug distribution. Domestic drug manufacturers tend to hire logistics services due to the increasing volume of imported pharmaceutical products, the increasingly difficult requirements of the import market, requiring experienced Logistics suppliers. In 2004, domestic drug manufacturers only met 44% of domestic demand

On the other hand, most threats coming from outside factors. Pharmaceutical products are related to human health, so they are very interested in the Government. The Ministry of Health has issued many legal documents on the management of the pharmaceutical industry, especially Decision No. 2701/2001 / QD - BYT dated June

29, 2001 regulating import, expor, trade and storage medicine; medicine storage service units, hospital pharmacy departments, research institutes and medical centers must develop a plan to step by step invest in upgrading and building drug warehouses according to the principle of "Practice good medicine preservation ”

Vietnamese law has not yet allowed foreign investors to invest in drug distribution. The legal system is not yet complete. SOEs also monopolize drug distribution. Although the transportation system has many modern constructions, the common ground is still weak. The systems have not coordinated effectively with each other, the railway, sea and airport systems operate separately The Internet system does not meet the speed and price requirements. In addition, Vietnam does not have an electronic information protection law, so online transactions are very limited.

Question 4: What do you assess current resources, how do you think about possibility for new innovation change?

In terms of current resources, Mr Khiem supposes that DKSH Vietnam is a branch company in the multinational group chain, receiving a lot of support, committed to support in terms of capital, management technology, expansion strategy from internship mother group. The company has met many international quality management standards such as ISO certificate as well as GSP. In addition, with the quality of the well-trained and enthusiastic professionaly management team as well as modern infrastructure, the company has all the elements to apply logistics service model and supply chain management in warehouse service operations.

In terms of implementation costs: The initial investment cost for infrastructure, equipment and technology is quite high, but prices have decreased more and more than before, plus a relatively fast rate of return from 13 - 16 months.

The cost of warehouse management will be reduced by converting the functions of branch warehouses into general purpose warehouses in a timely manner (JIT), due to costs such as space rental, maintenance costs, cost of human resources, warehouse management labor.

In terms of efficiency after applying the model: Completing existing warehouse services in terms of human resources as well as infrastructure to improve operational efficiency, improve customer service quality at a cost optimization is based on the application of logistics service models and supply chain management for warehouse service operations step by step improving three product lines, information and costs.

Applying the model will help preserve the adequate quantity and quality of the goods in stock; reduce damages, losses, reduce circulation fees in warehouse management; creating conditions to firmly grasp the quantity and quality of goods actually in stock, on which basis it is possible to graduate from goods import and export operations.

Although the number of inventories at local branch warehouses decreased, good customer service is still maintained, due to the perfect distribution plan and network

as well as the increased accuracy in forecasting scientificly demand helps to supply goods with the right quantity and quality.

5 ORIENTATION AND PROPOSED APPLICATION

5.1 Basis and orientation of the application

Through analyzing the current state of DKSH Vietnam Co,. Ltd with the desire and determination to help it:

- Becoming the leading company in the country as well as the region in the field of logistics.
- Exceeding expectations and become part of the choice of customers and partners through the continual expansion of services and product portfolios.
- A recognized leader in adhering to quality registered
- Become the ultimate provider of logistics with the lowest cost.

After successful application of the logistics service model and successful supply chain management at the pharmaceutical warehouse at DKSH Vietnam, it can be multiplied to logistics companies in Vietnam.

It is said that the hallmark of a truly successful company is its willingness to give up on long-standing achievements. A really big company is never satisfied with what it is now. A really big company is willing to abandon the way it has been known for a long time with hopes and expectations for something better. Although in the past the company had the right to take pride in its achievements, it drew grounds for proposing solutions: The company was disappointed because it took a long time to respond to the customer needs, especially during order fulfillment as well as goods delivery. The company's competitors have achieved outstanding growth in customer service, because they have applied advanced techniques, been more flexible and expanded distribution networks.

Problems exist in business: The company must admit in the past time it has spent too much time and costs in maintaining the old mechanism as well as developing new techniques and processes.

Customers' demand increasingly requires diversified, new and more complex services. Customers care about quick and accurate feedback from the service unit.

With the current organizational structure, it is difficult for companies to provide customers with these services. Change is an irreversible objective trend, in today's competition, the company cannot use patchwork techniques to bring about small improvements which does not produce a good results as expected. Therefore, there's no time to hesitate, either for all or for nothing. If the company does not implement solutions to apply the logistics model early, the company will gradually lose market share to competitors. For example, some major customers have left in the past year that is the price paid for procrastination and this cost will continue to increase if the company continues.

5.2 Proposed application

Phase 1: Accomplishing existing warehouse services

Fundamental

Renovating and building a new system for monitoring the product storage environment.

Researching, surveying and surveying the layout of the system of temperature - humidity detectors in a scientifically reasonable way. Hire temperature software companies to research, survey and install probes, the software to record all the coordinates in the warehouse, then statistic the data from which to build an accurate temperature map. It is possible to determine the temperature sensitive points from which the probe coordinates can be determined to accurately monitor and manage the humidity temperature to meet the GMP standards as well as other international standards.

Purpose of Temperature Survey in Cold Storage: Sampling temperature in different parts of cold storage to find out the locations with the most temperature change in order to attach the temperature sensors to the specified location that help tracking temperature in stock better and more accurate than randomly placing heat probe.

Methods of Implementation:

Measure and take samples directly at many locations identified in the warehouse design diagram.

Use the test: measuring equipment with thermal probes: the sampling time of the device must be short, the number of the device must be small.

In order to evaluate the change of temperature precisely at the different locations are sampled at the same time, problems causing large temperature changes (symbol X) such as power failure, opening of the warehouse, and shipping must be eliminated. Since these points are not due to the operation of the system nor the stabilization of the heat taking place in the warehouse, but by external agents. at that position the periodic steady changes are made,

Human resource organization

Continued training on GSP, professional regulations and professional expertise for employees. Training courses should be regularly planned and organized, especially for new employees. Normally, each year the department head must plan a detailed training plan for each employee position (training budget, training content, list of trained employees). Training not only external but also inside of the company according to the construction curriculum of the board of management and also builds on the team of many employees to learn and exchange experiences, clearly analyze tasks and careers. Department of each employee in each department to

stimulate their creativity and make them more interested in the job so that they will stick with the job or with the upcoming plans of the company. On job training should be given more emphasis and must be incorporated into the training process: encourage, develop and facilitate this type of group activity, strengthen promoting exchange of career information between departments within enterprises.

Warehouse management process

New investment in Voice Recognition Technology (Voice Recognition Technology) in warehouse operations

Communication method	2019	Difference with 2018
1. Barcode scanning by RF	43%	+ 3
2. Paper lists	18%	- 3
3. Pick to light	14%	- 2
4. RFID	13%	- 3
5. Voice recognition	12%	+ 4

Table 3 Percentage of warehouse management method

Figure 5 Result of error reducing when applying VR method comparing with RF

Comparison of 3 methods:

The method of identifying phonogram and RF (radio frequency) scanning device

The result that DIETHELM MALAYSIA company achieved after applying the alternative phonetic method for RF is the case of composing the wrong goods and the customer is mistaken by the customer. 25% and 50% reduction in returns, respectively.

Voice recognition method and pick - to - light device

In cases where the phonetic recognition method is effective:

- Shots with multiple storage units (SKU)
- The number of drafting staff is small
- Requires flexible application

In the cases where the pick-to-light method is effective:

Quick delivery of a small number of items with high composing frequency

Suitable for the warehouses are heavily staffed and divided by region.

	Radio frequency device	Pick to light	Voice recognition
Optimimal application	Load product in low density For data collecting demand	Load product in high density Load single order Retail- Illuninated	Load product even and odd

	Others: Folklifts		Load product in cool and cold storage Load heavy weight product Other functions: Folklifts
Instruction	No	Yes: Composing instruction	Yes: Warehouse management instruction
Accuracy	5 errors/ 1000 cases	3 errors/ 1000 cases	0,2- 2 errors/ 1000 cases
Productivity	50 - 250 line/h	100 - over 350 line/h	100 – over 300 line/h
Advantage	Convenience in seize data	High productivity	Most accuracy Save personel Flexiable for improving
Disadvantage	Require many handwork Low productivity	Require many handwork Devide area causes productivity.	High fix asset cost.

Table 4 Comparing application of methods

Comparison of modern (paperless) composing methods in application at DKSH Vietnam

Warehouse RF handheld: RF scanner accuracy: 5 errors out of 1000 cases (most of the three method) or accuracy is 99.50%. The cause of the error is: not all products have barcodes to scan, the bar code reading speed is sometimes not perfect due to stains, dirty, poor print quality. When composing the first unit scanned many times and forgot to compose the remaining items. Scan the right item and location but get the wrong item, wrong counting when composing orders

Ordering productivity can reach speeds from 50 - 250 lines / hour (the lowest output among 3 methods) depending on the level of technology application. The majority of this method is suitable for handling medium and slow turnover units (not suitable

for DKSH Vietnam). An employee can handle multiple line units (SKUs) especially in total (batch compiling) cases. Factors that affect productivity are hand-held use, need to scan too much, and data entry requires manual handling because the product has no bar code.

Compose goods according to the pick to light signal:

Accuracy of pick - to - light method: 3 - 5 errors in 1000 cases (less error than RF device, but still higher than speech recognition method) or 99.50% accuracy. The cause of the error is: The light was correct but the staff wrote incorrectly, processed too many orders at the same time, failed to supply, counted incorrectly.

Ordering productivity can reach speeds from 100 - over 350 lines / hour depending on the level of technology application, this method is suitable for composing odd orders with high composing frequency.

Factors affecting productivity is the workload concentrating on one area, with staff handling too many units of goods simultaneously. High composing frequency, staffing and division, conveyor jamming

Phonological recognition device: Accuracy of phonetic recognition method: 0.2 - 2 errors in 1000 cases (least error in 3 methods) or 99.98% to be exact. The cause of the error is due to: wrong counting, drafting staff confirming before reaching the designated position and composing wrong position

Order preparation productivity can reach speed from 100 - 300 lines / hour depending on level technology application. This method is suitable for both bulk and odd compositing with high or low compositing frequency. The factors that affect productivity are the check number is too short (less than 3 characters (bytes), the distribution of the layout of the areas.

Through research and learning from experience of warehouses in the area of Diethelm Group, as well as analysis of the specific situation and characteristics of the DKSH Vietnam warehouse, the use of new technologies, the application of voice recognition technology in composing goods, managing inventory for DKSH Vietnam in particular and logistics warehouses in general in Vietnam is more appropriate for the following reasons: DKSH Vietnam warehouse is both solid warehouse.

The entire pharmaceutical warehouse is cool and cold, with the maximum storage temperature of 23 ° C, the staff working in the warehouse must wear gloves when working. In general, the goods at the warehouse are very heavy, the warehouse staff is relatively small, due to the specifics of the pharmaceutical industry. High flexibility, can be applied in many warehouse operations, in the condition that the company's goods are very rich, plus the cost of applying this method depends only on number of users, not dependent on number of SKUs or number of stockpiles as other methods.

Voice recognition technology is a method of performing composing and other store activities using voice recognition. An employee wears a headset with microphone and a small control device strapped to his belt, voice commands will be transmitted and received to the computer (host) via radio waves (RF). The computer will have software that converts text instructions into voice commands and vice versa. These directives will be passed to the warehouse staff in the order of priority. The confirmation officer completes the assigned work by speaking into the microphone. For example, the server computer prints out the drafting form and orders the warehouse staff to know the location to compile the goods, when the warehouse staff reads the correct position, the machine will indicate the quantity to be picked up, after taking the goods he will confirm by repeating quantity One difference of this approach is the application of countdown. Instead of confirming 5 composing units, we only need to count 5-4-3-2-1 that helps to eliminate errors while composing. If the compose position is empty or missing, the employee will report and continue composing the next position. Ideally, the software will track additional missing numbers. In the event the employee forgets or does not hear the instructions clearly, he may ask to be repeated. When necessary, other information such as weight, batch number etc. are also entered into the system.

This technique is widely applied in the composing of goods: barrier goods (box unit), cargo line, or goods without carton packaging such as ready-made clothes, tires. The voice recognition system also It is used in pickup operations, loading operations, refueling, packaging and especially unlabeled packaging as well as cycle inventory.

The effects brought about by the application of this technology are:

Accuracy, reducing errors in packing from 70 to 90%

Helping employees to keep their hands free to focus on goods and direction instead of having to hold the compose form, keyboard or screen. This not only increases productivity, but also helps reduce eye strain. Many companies that use this method report increasing productivity by 5 - 15%. Especially the productivity is very high in cold storage, where employees have to wear gloves especially in cases where the weight of the cartons must be weighed when loading.

Another benefit is the flexibility this approach can be applied to many different applications without changing hardware. An employee can pick up goods using this device in the morning, and then switch to the afternoon picking work with the same equipment. This equipment system can work anywhere in the warehouse, as long as the place does not obstruct radio signals, it is suitable for any product including those without bar codes or identification mark clearly. Unlike barcode scanners, which can operate in low light.

Some voice recognition systems can quickly switch from batching to batching (Create a line for a sum of orders. For example take 5 units of item X where 2 units are for order A, 1 for order B and 2 for order C). This will reduce the travel time of the drafter, eliminate paper work, drafters no longer have to hold drafting cards. In addition, this method also improves working conditions as well as a safe working

environment where employees can keep their hands and eyes free to focus on arranging.

This advantage is especially useful when the employee has to handle heavy loads and use mobile devices.

Some companies report that the percentage of employees who quit their jobs has decreased significantly when using this method. Young staff praise and support the approach with the new technologies.

The cost of applying this method is proportional to the number of users, not dependent on the number of SKUs or the number of commodity locations as methods. Other than the method of composing according to the light signal (pick - to - light). Therefore, the command recognition method is very effective for warehouses with large storage volumes (many SKUs).

This system of equipment is suitable for all languages, very suitable when applied in warehouses in countries that are not fluent in English like Vietnam.

It is expected that with the method of verifying the voice commands, the number of errors for making incorrect lines will decrease from 74/10000 cases to 18/10000 cases. At the same time, productivity increased from 107 bales / person / hour to 119 bales / person / hour. In the same warehouse, training and training costs will be reduced by 60%, severance rate will decrease by 47%.

With sales forecasting an average of 500,000 pieces per week with operating costs of $ 15 / piece the total cost will be $ 7,500,000 / week. If the order is 99.3% correct, the cost of the sales drop due to mistaken order is $ 683,000. By increasing the compositing accuracy to 99.8%, the reduction in annual sales to $ 195,000 saves $ 488,000 compared with the $ 450,000 investment that was enough to cover the first year. apply this method. Plus benefits such as improving labor productivity, reducing training costs, improving customer service, creating employees' engagement with the company.

However, when applying this method, it is necessary to note the following issues:

This method is not faster than other advanced technology solutions such as barcode scanner or pick to light. However, accuracy is always improving. The initial investment cost is quite high, however the price has decreased more and more than before, plus the rate of return is relatively fast from 13-16 months

In term of quality management process, warehouse processes should be well documented and detailed including who is responsible, documents, how to perform, and how to check specific standards of concern. set up many small procedures as well as job instructions, this helps employees at all stages to understand and evaluate the quality of their work. Instructions, evaluation criteria, part targets are immediately visible at the workplace.

It is necessary to set up a number of new processes that are not yet available such as:

- Vacant location check
- Import, transfer, and receive emergency medicine
- Treatment of cancer drugs
- Pre-check when unloading
- New employee training process
- Address when toxic poisoning happens

Adopting new methods such as the ABC classification method used to determine commodity classification based on business number or circulation. Review and complete the SOP system, work instructions and strictly follow the issued SOPs. Gradually establish and consolidate processes, application of new management system (SAP).

Stipulate details and exercise full control over inventory. Have a strict refrigeration inspection procedure Identify who is primarily responsible in each step, every stage of the process.

List the import documents according to the requirements of each shipper.

There are separate regulations for special goods such as:

Antibiotics: Label "awaiting inspection" and release the goods only when staffed quality management (QC) notices of safety

Dangerous drugs: Label “wait for inspection” and release only when confirmed by a pharmacist.

Medicines need to be refrigerated: Label “check” and replace change batch number as required and send relevant documents to the quality control staff (QC).

Use the barcode scanner (RF gun), IR thermometer gun to check the goods and the temperature.

Labor protection when entering, exiting, and working in the warehouse need to establish a recall process: There must be a system that is capable of immediate and effective recall for products considered poor. There must be an appointment of a person in general responsibility and a committee in charge of product recall handling. Formal SOPs for product recalls must be developed; they must be reviewed and updated regularly. Product recalls should be carried out as soon as possible up to the level required by the distribution chain. Guidance should be given on quarantine of recalled products in an appropriate place pending a disposition decision.

Immediately notice must be made to the competent authorities in the distribution of products that are deemed to be of poor quality. Company must have complete distribution records for the product; information about the retailer or dealer will help make recalls effective. Recalls should be monitored, and records should be made, clearly showing the product disposition. The final report of the product recall should show the quantity of product delivered and the number of products recalled. From time to time it is advisable to test and evaluate the effectiveness of SOPs on product recalls.

Phase 2: Applying logistics service model and supply chain management in warehouse service operations

Fundamental for the application of the model

In recent years, the company has deployed and applied many technologies and management models such as ISO, TQM (Total Quality Management: Comprehensive Quality Management), GSP (Goods Storage Practices) ... but the single application of the above models has reached the limit, cannot bring greater benefits. It is time to apply the model of logistics and supply chain management effectively to we can continue to rationalize and optimize as well as reduce costs throughout the supply chain effectively, increase profit margins, improve competitiveness and expand market share.

Content of the model

Reallocate storage areas (material flow)

Reallocate, rearrange areas, build toxic storage areas from rest of the cargo, relocate position according to the ABC principle, the 80/20 rule, that is to arrange goods in order of priority: place fast-moving goods near the import and export area, followed by goods with average circulation and slow-moving goods.

In addition, rebuilding areas such as: The packing area with labels is designed and built according to regulated standards; separate and securely place a storage area for failing products (pending return to supplier or destruction); properly design, construct and equip to avoid contamination or cross-contamination of material sampling areas, and have safe areas for regulatory storage of toxic, addictive and psychotropic drugs.

Focusing fast-moving items in one content-making position: this principle is to focus items on one area such as promotional goods, seasonal goods, special offers, fast-moving goods. This layout definitely increases the compositing staff's concentration (the number of composers per row) and composing density (the number of composers per item). This increases labor productivity because it shortens the gap between two composing positions.
Principle of inventory characteristics: Based on the basis of an annual statistical review of strategic items (number of items & quantity of inventory warehouse) by calculating average rotation volume, peak, inventory growth rate, it is possible to

decide on the allocation of the drafting and storage location in the warehouse. The distance travelled of the vehicles in the warehouse should be pay attention to reduce vehicle travel distances as short as possible, thus minimizing costs.

Upgrading warehouse Management Software (information flow)

Replacing existing eBPCs with SAP software

Profitability is key: A Company's success is determined primarily by profitability. The higher the profit, the greater the success of the company and strong growth. There are several ways to help the company increase profits, the best is to reduce inventories and minimize unprofitable inventories. But that is not simply balancing inventory in stock, the company must maintain a permissible inventory level in order to ensure that it can perform services to its customers, to understand customer requirements, to purchase a certain volume of goods to satisfy demand. Any excessively large inventory of one of the items is wasteful and ineffective.

SAP Business - Distribution is designed to meet and satisfy the above needs. SAP's on-demand purchasing features assist the company in making purchasing decisions on what the customer really needs, not what the company thinks the customer will buy. It also assists the company in making decisions when to purchase stock and in what quantities to be appropriate.

Good customer service is the company's advantage: For many distributors, the best way to set yourself apart from competitors is by providing a higher level of customer service. Distributors who can satisfy orders quickly and reliably will attract and keep the most customers. The goal is:

- Ensuring the right level of inventory meets on time when the customer needs.
- Provide guidance to the customer as they make a buying decision
- Exact order processing
- Punctual delivery sales business

SAP Business- Distribution offers a system of superior features to promote the services that the company provides. From the moment a customer places an order until they receive it. SAP ensures the ability to provide the best customer service.

With features such as category reference and item replacement, the company is able to provide prompt replacement advice to customers when they place an order from the company. The feature of handling when the goods are not in stock allows the company to expand offers to meet the changing needs of customers. The demand-based purchasing feature ensures that the stock is always available in sufficient quantities when requested by the customer. Feature of consolidation and delivery to ensure complete and correct delivery of goods. In addition, the return management function also provides a simple and direct way of receiving returns

and manages the goods in stock to create the most convenient way of handling returns.

Creating efficiency: The more and more companies that do the distribution business, the more complex they are in warehouse management operatioThe goods in the warehouse are getting bigger and bigger, the product types are plentiful. This often leads to the increasing demand for warehouse space and management manpower.

Many distributors have had to spend enormous sums of money on consolidating and clearing inventory, managing the shipment cycle, and moving to the consolidation site. Warehouse mismatches also become a problem if the company cannot correctly manage the stock in a warehouse with a larger warehouse or where the warehouse is located in many places. With warehouse management features, SAP can help the company to be optimistic in warehouse management today as well as in the future. By providing direct consolidation functions, SAP offers appropriate advice to the warehouse manager where the warehouse is located and how to efficiently collect. And the direct type function helps administrators to choose where and how to place inventory in stock. Whether the company is a Small Distributor with single warehouses, or the company is a large distributor with warehouses located in multiple locations, SAP can respond to the need for fast and accurate decision making.

With the help of barcode equipment (Barcode), SAP allows the Company to automatically and easily operate the items in stock. Operations such as consolidating, packing, packing and inspecting goods become much more efficient by saving operators' time and effort. The accuracy of information in the Company's system is also enhanced because errors when manually importing items of goods are reduced. One solution is the best solution: For many busy distributors, trying to integrate the distribution system with the accounting and management system takes a lot of time, effort and money but still cannot be guaranteed. guaranteed success for sure.

Business SAP - Distribution is fully integrated with the Accounting and Finance Module, a widely used SAP business and accounting solution. This level of integration is indispensable if a distributed solution is applied to the entire organization, from Administrative Management, Finance and Accounting, to the professional stage.

Ease of Implementation and Use: SAP is a fully integrated solution with an appropriate, simple and convenient user interface. Business the way the Company: For small scales and high flexibility, SAP offers special features called "Small Modules". This approach allows the Company to select precisely the features it needs at no additional cost for features it does not need yet. As the Company's business grew and the Company's demand changed, the Company simply needed to easily purchase additional Modules. One solution for the future: SAP is designed to accommodate the Company's future service growth and change needs. It represents the best technology to respond to current needs and to constantly evolve in the future. Whether the Company is a small business with small sizes or a large

distributor, SAP being able to meet the needs of the Company quickly and accurately in important decision making.

Product advantages:

Integration: SAP can be linked or decomposed into modules operating independently or in parallel to suit the size of each Company. SAP is capable of applying to all functions in the enterprise: Business, Administration.

Comprehensive solution: With the method of setting flexible parameters, SAP is not only suitable for the industrial market in North America or Europe, but also for all economic models including Vietnam. Administrators can easily set up new or change business processes in accordance with the actual operations of the company. In addition, users can tailor this software to their needs to manage additions or changes in the company's business.

Openness: SAP is open through data information standardization, allowing data pairing or exchange with other software products on the market.

Multi-languages: The user can choose any language including Vietnamese to display information as well as keyboard manipulation.

Consistency of interface: Allowing customers who are familiar with one Module will quickly get acquainted and use other Modules upon request.

Commercial forms: Seven purchase for each Module or total solution.

Service form: SAP's setup, installation, maintenance, support and upgrade services comply with industry standards.

Technical advantages:

Technology standards: SAP is built according to European Technology standards for programming, communication, system administration, database as well as business processes.

Centralized processing model (Server - Based Computing) and Peer to Peer: With centralized processing model, especially on Unix / Linux environment, SAP does not depend on the operating system on machines, minimizing the cost of licensing as well as the cost of upgrading equipment when deploying product applications.

Total solution for the network environment: Modules of SAP have the ability to work on individual computers as well as all types of LAN / WAN / Internet connection. SAP does not limit the number of member machines working on each Module in real time.

Multi-location: SAP provides centralized or distributed data link solutions, meeting the requirements of multi-location information synthesis. The ability to run the program through Web Browser helps customers to use the program regardless of geographical distance.

Real time (Real - time System): the ability to synchronize information in real time allows information in any SAP module to be able to synchronize the whole system in real time, to meet the requirements. Bridge updates and instant information.

Processing speed: development on low-level languages C / C ++ strictly manage memory usage, ensuring the program has the highest processing speed.

Stability - data safety: SAP is compatible with various data management systems such as DB2, Informix, Oracle, MySQL ... inheriting at the highest level of data stability and security features.

Information security: Access is detailed by top-level administrator for each action as well as managing information allowed to display for each individual. Ability to activate or delete passwords for real-time use across the system.

Optimizing warehouse location

One of the goals set by DKSH management was to respond quickly to customer orders, but this was often not achieved, as the company now uses the multi-level distribution system, goods are gathered into a central warehouse (CDC) in an industrial park in Binh Duong. CDC then forwards products to local distribution centers (RDCs), smaller warehouses, which receive and deliver products to customers according to orders. CDC does not have a retail function, only the RDCs have the right to issue retail invoices to customers. Some customer in Binh Duong should have got the needed goods quickly from CDC, just a few kilometres away, but it didn't happen like that. Because the CDC cannot ship to customers even though RDC in Ho Chi Minh City has sent a retail invoice to CDC. This is because while RDC's measure of service quality is the time it takes to respond to a customer's order; it is not for the CDC. Its performance is assessed against other criteria such as storage cost, inventory turnover rate and labour cost. The rush to respond to a customer's urgent request can be detrimental to the CDC operations itself. As a result, customers in Binh Duong stopped trying to pick up urgent goods from CDC, just a few kilometers away. Instead, it picks up goods from RDC in Ho Chi Minh City about 30 kilometers away and has been shipped back from CDC in Binh Duong earlier. The cost of transporting and loading and unloading goods to travel many times in a very absurd way is not a small number. Yet the RDCs, as well as the CDC considered doing their job properly, but the whole system was poor.

To achieve effective operations, the company needs to reduce inefficient RDC branch warehouses with high frequency of duplication, high costs (transportation costs, space rent, taxes and fees, labor costs, electricity, water), no strategic location for development, turning branch warehouses into cross = docking temporarily translated as multipurpose warehouse for classification, synthesis and finishing of goods to serve customer. Cross docking has the same basic functions as a "Distribution mixing centres". Products will be shipped from CDC in Binh Duong to Cross = docking in large batches, where the shipment will be separated, prepared according to the needs of customers, and then sent to customers. Since it has been fully prepared, when it arrives, the goods will be put to use immediately without

going through the storage. Applying this method helps the company respond quickly to orders with low operating costs based on JIT principles. The next year, 2021, was to convert the Ho Chi Minh City branch warehouse (SDC) to cross docking.

6 CONCLUSION:

In conclusion it can be stated that, in general, the potential of DKSH Vietnam company's operation and development are very good. It has positive status which is one of the foreign companies operating in the logistics field which has been operating successfully in recent time. However, to be able to become a leading company in the country as well as in the region in the field of logistics; the perfect logistics service provider by the lowest cost, the company needs to overcome the weaknesses, constantly improve operational efficiency through a series of logistic model applications. At the same time, a petition was raised for government that improving the investment environment, encouraging and creating conditions for businesses operating in the logistics sector to improve their competitiveness in the general context of integrating into the world economy.

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