STORE INVENTORY MANAGEMENT SYSTEM, STORE INVENTORY MANAGEMENT METHOD, AND PROGRAM-RECORDED RECORDING MEDIUM

TECHNICAL FIELD

The present invention generally relates to a system for managing the inventory of products, and more particularly to a store inventory management system for managing storefront inventory.

BACKGROUND ART

Conventionally, various proposals of methods have been made for managing the inventory of products in stores (hereinafter referred to as the "store inventory"). Thus, an example of a method for managing the store inventory of each store in a business format constituted from a head office and a plurality of stores is explained below.

Foremost, at the time of initially inputting a product, the head office side decided the distribution of such product to the respective stores based on the production volume and sales forecast of the product, and distributed such product to the respective stores in accordance with the foregoing decision. And, the products (residual stock) that were not distributed to the stores were kept as inventory at a shipping base such as a distribution center.

Then, the respective stores sold the distributed product, and, when the stock of the product decreased due to the sales thereof, such stores replenished the product by transmitting a shipment order of the product to the distribution center. For instance, an automatic replenishment system was employed for the replenishment of

products. This automatic replacement system transmits a shipment order for automatically replenishing the product when the store inventory quantity of the product falls below the "standard inventory quantity" set for each store.

Meanwhile, at the respective stores, there are cases where the product distributed according to the decision of the head office side does not sell contrary to the forecast of the head office side. In such a case, the head office side constantly checked store inventory quantity of the respective stores, and, when it determined that there is excess inventory of the product, gave a return order to such store to return the product.

Nevertheless, the conventional method of managing the store inventory encountered various problems as described below.

Firstly, since the initial input quantity and standard inventory quantity of the product are decided based on the likes of a sales forecast, when the forecast and the actual status of sales differ, there is a problem in that it is difficult to maintain the optimum store inventory quantity. For example, when the actual sales exceed the sales forecast of the product, even though the product is selling, since the product quantity according to the preset standard inventory quantity is only shipped in, the inventory quantity of the product will be insufficient as a result thereof, and this created a loss of opportunity due to inadequate inventory. Meanwhile, when the actual sales fall below the sales forecast of the product, even though the product is not selling, a certain quantity of such product will be stored as store inventory, and this led to a situation of excess inventory as a result thereof.

Secondly, with the conventional method of managing the store inventory, although the replenishment of products was automatically conducted based on the standard inventory quantity, the return of products was conducted based on instructions from the head office side. Thus, since the head office side had to

frequently check the store inventory quantity of the respective stores, a large amount of labor and much time were required. Further, when the return of products was not conducted appropriately, there would be cases where, even though a certain store was short of products, other stores would have unsold products, and it was difficult to sell products efficiently at all of the stores.

Thirdly, with the conventional method of managing the store inventory, since the scheme automatically replenished products and returned products based on the judgment of the head office side, it was difficult for the store side to adjust the store inventory based on its own judgment. In other words, the store side that actually sells the products has its own unique situation depending on the respective stores. For instance, there are cases where a store wishes to increase or decrease the quantity of specific incoming products in consideration of the trend of its consumers or an event to be held the following week. Nevertheless, with the conventional method of managing the store inventory, there was no means for reflecting the intention of these stores, and it could not be said that the sales force of the stores was being sufficiently leveraged.

Fourthly, since inadequate inventory and excess inventory of products occurred with the conventional method of managing the store inventory, it was difficult to sell products by effectively utilizing the store space. In other words, since the store capacity (space for arranging products) is limited depending on the size and the like of the store, upon selling products at such store, it is important that the products are arranged according to the capacity of the store without wasting any space. Nevertheless, for instance, when there is inadequate inventory, products will not be arranged in the space where such products are to be arranged, and there were cases where the store space was not utilized as a result thereof.

And, these problems occur noticeably in the field of apparel and the like

wherewith the lifecycle of products is short and which often encounters high-mix low-volume production. Thus, although a method of managing the store inventory in correspondence to such high-mix low-volume production is being desired, such technology has not yet been realized to date.

Accordingly, an object of the present invention is to provide a store inventory management system and method thereof capable of maintaining the store inventory in an optimum state.

In other words, the first object of the present invention is to provide a store inventory management system and method thereof capable of managing the store inventory according to the daily sales record of the store.

The second object of the present invention is to provide a store inventory management system and method thereof capable of automatically shipping or returning the product according to the daily sales record of the store.

The third object of the present invention is to provide a store inventory management system and method thereof capable of managing the store inventory based on the intention of the store side.

The fourth object of the present invention is to provide a store inventory management system and method thereof capable of managing the store inventory so as to effectively utilize the store space.

SUMMARY

In order to achieve the foregoing objects, the present invention took particular note of the sales record of products in the individual stores and the shipment cycle in which the products are shipped to the stores, and decided to fluctuate, in accordance with the shipment cycle, the inventory quantity to be held by

a store (hereinafter referred to as the "basic inventory quantity") based on the sales record of the store. According to the above, in addition to the basic inventory quantity being fluctuated according to the sales record of the store, the shipment/return order of products will be made such that the store inventory quantity coincides with this basic inventory quantity. Thus, it will be possible to manage the store inventory quantity such that the store inventory quantity is increased in stores enjoying large sales, and decreased in stores having poor sales.

Moreover, in the present invention, the foregoing basic inventory quantity is constituted from a basic inventory quantity (face) to be arranged in the storefront of the store, and inventory quantity (back) to be stored inside the store. The face value is preset in accordance with the store capacity, and the back value is obtained by subtracting the face value from the basic inventory quantity. According to the above, when the basic inventory quantity fluctuates, only the back value will fluctuate, and it is thereby possible to realize the fluctuation of the basic inventory quantity according to the sales record without having to change the storefront product layout.

Specifically, the present invention is a store inventory management system, comprising: a calculation means for calculating the basic inventory quantity of a product to be retained by a store based on the sales record of the product in the store according to a shipment cycle sorted in a prescribed time unit; and a transmission means for transmitting to a prescribed distribution center the shipment/return order of the product according to the difference between the calculated basic inventory quantity and the store inventory quantity of the product in the store.

It is desirable that the calculation means calculates the basic inventory quantity based on the delivery lead time required until the product is delivered to the store, and the sales record.

When the shipment cycle is sorted in a day unit, it is desirable that the calculation means calculates the basic inventory quantity of the target day based on the daily sales record and delivery lead time sorted in a day unit.

It is desirable that the calculation means specifies the daily sales record that coincides with a prescribed condition among the daily sales records, and calculates the basic inventory quantity of the target day based on the specified daily sales record and delivery lead time.

It is desirable that the calculation means determines whether the target day corresponds to the first day of the period sorted in a prescribed day unit and, when it determines that the target day corresponds thereto, specifies the maximum daily sales record from the daily sales record within the sorted period prior to the sorted period under which the target day falls, and calculates the basic inventory quantity of the target day based on the specified maximum daily sales record and delivery lead time.

It is desirable that the calculation means determines whether the target day corresponds to the first day of the period sorted in a prescribed day unit and, when it determines that the target day does not corresponds thereto, specifies the maximum daily sales record from the daily sales record within the sorted period under which the target day falls, and calculates the basic inventory quantity of the target day based on the specified daily sales record and delivery lead time.

It is desirable that the prescribed day unit is a 7-day unit.

The present invention is also a store inventory management system, comprising: a storage means for storing product management information containing product data of the product to be arranged in a store; a calculation means for calculating the basic inventory quantity of the product to be retained by the store based on the sales record of the product in the store; a transmission means for

transmitting to a prescribed distribution center the shipment/return order of the product according to the difference between the calculated basic inventory quantity and the store inventory quantity of the product in the store; and a display means for associating the calculated basic inventory quantity with the product management information and performing the screen display thereof.

It is desirable that the display means displays the basic inventory quantity by separating it into a first basic inventory quantity representing the inventory quantity of the product to be arranged at the storefront of the store, and a second basic inventory quantity representing the inventory quantity of the product to be stored inside the store.

It is desirable that the storage means stores the product quantity set up according to the arrangement space of the store as the product management information; and the display means displays the product quantity as the first basic inventory quantity, and displays the value obtained by subtracting the product inventory quantity from the basic inventory quantity as the second basic inventory quantity.

It is desirable that the store inventory management system further comprises a reception means for receiving a designation to correct the basic inventory quantity; and a correction means for correcting the basic inventory quantity based on the received designation; and the transmission means transmits to a prescribed distribution center the shipment/return order of the product according to the difference between the corrected basic inventory quantity and the store inventory quantity of the product in the store.

It is desirable that the display means associates the shipment/return quantity of the product calculated based on the calculated basic inventory quantity and the store inventory quantity of the product in the store, with the product management

information stored in the storage means, and performs the screen display thereof.

It is desirable that the store inventory management system further comprises a reception means for receiving input of information for controlling the transmission to the prescribed distribution center with the transmission means; and, when information for conducting automatic transmission to the distribution center is input, the transmission means transmits the shipment/return order of the product to the prescribed distribution center.

Further, the present invention is also a store inventory management system, comprising: a calculation means for calculating the basic inventory quantity of the product to be retained by a store based on the sales record of the product in the store according to a shipment cycle sorted in a prescribed time unit; a transmission means for transmitting to a prescribed distribution center the shipment/return order of the product according to the difference between the calculated basic inventory quantity and the store inventory quantity of the product in the store; and an inventory quantity storage means for storing inventory quantity of the product to be stored in a prescribed storage site; wherein the transmission means calculates the reserve quantity according to the difference between the calculated basic inventory quantity and the store inventory quantity of the product in the store, and transmits to a prescribed distribution center the shipment/return order of the product based on the reserve quantity and the inventory quantity of the product stored in the inventory quantity storage means.

It is desirable that the inventory quantity storage means stores the inventory quantity of the product cancelled for sale in a first store which sells the product at a regular price as the inventory quantity of a non-operational product; and when the store corresponds to a second store which sells the product at a discounted price, the transmission means transmits to a prescribed distribution center the

shipment/return order of the product based on the reserve quantity and the inventory quantity of the non-operational product stored in the inventory quantity storage means.

It is desirable that the store inventory management system further comprises: a product management information storage means for storing product management information containing product data of the product to be arranged in the store and the scheduled sale period of the product; and a setup means for determining whether the target product is a non-operational product cancelled for sale in the first store, and setting up information in the inventory quantity storage means to the effect that the target product is a non-operational product when it determines that the target product is a non-operational product; and the setup means determines whether the scheduled sale period of the target product has ended according to the scheduled sale period of the product stored in the product management information storage means and, when it determines that the scheduled sale period has ended, sets up information in the inventory quantity storage means to the effect that the target product is a non-operational product.

Moreover, the present invention is also a store inventory management method for managing the inventory of a store in a system to which a terminal device setup in the store and the shipment center are connected; wherein the terminal device executes: a calculation step for calculating the basic inventory quantity of the product to be retained by a store based on the sales record of the product in the store according to a shipment cycle sorted in a prescribed time unit; and a transmission step for transmitting to a prescribed distribution center the shipment/return order of the product according to the difference between the calculated basic inventory quantity and the store inventory quantity of the product in the store.

It is desirable that the terminal device calculates, in the calculation step, the basic inventory quantity based on the delivery lead time required until the product is delivered to the store, and the sales record.

When the shipment cycle is sorted in a day unit, it is desirable that the terminal device calculates, in the calculation step, the basic inventory quantity of the target day based on the daily sales record and delivery lead time sorted in a day unit.

It is desirable that the terminal device, in the calculation step, specifies the daily sales record that coincides with a prescribed condition among the daily sales records, and calculates the basic inventory quantity of the target day based on the specified daily sales record and delivery lead time.

It is desirable that the terminal device, in the calculation step, determines whether the target day corresponds to the first day of the period sorted in a prescribed day unit and, when it determines that the target day corresponds thereto, specifies the maximum daily sales record from the daily sales record within the sorted period prior to the sorted period under which the target day falls, and calculates the basic inventory quantity of the target day based on the specified maximum daily sales record and delivery lead time.

It is desirable that the terminal device, in the calculation step, determines whether the target day corresponds to the first day of the period sorted in a prescribed day unit and, when it determines that the target day does not corresponds thereto, specifies the maximum daily sales record from the daily sales record within the sorted period under which the target day falls, and calculates the basic inventory quantity of the target day based on the specified daily sales record and delivery lead time.

It is desirable that the prescribed day unit is a 7-day unit.

In addition, the present invention is also a store inventory management

method for managing the inventory of a store in a system to which a terminal device setup in the store and the shipment center are connected; wherein the terminal device executes: a storage step for storing product management information containing product data of the product to be arranged in the store; a calculation step for calculating the basic inventory quantity of the product to be retained by the store based on the sales record of the product in the store; a transmission step for transmitting to a prescribed distribution center the shipment/return order of the product according to the difference between the calculated basic inventory quantity and the store inventory quantity of the product in the store; and a display step for associating the calculated basic inventory quantity with the product management information and performing the screen display thereof.

It is desirable that the terminal device, in the display step, displays the basic inventory quantity by separating it into a first basic inventory quantity representing the inventory quantity of the product to be arranged at the storefront of the store, and a second basic inventory quantity representing the inventory quantity of the product to be stored inside the store.

It is desirable that the terminal device, in the storage step, stores the product quantity set up according to the arrangement space of the store as the product management information; and, in the display step, displays the product quantity as the first basic inventory quantity, and displays the value obtained by subtracting the product inventory quantity from the basic inventory quantity as the second basic inventory quantity.

It is desirable that the terminal device further executes a reception step for receiving a designation to correct the basic inventory quantity; and a correction step for correcting the basic inventory quantity based on the received designation; and the terminal device, in the transmission step, transmits to a prescribed distribution

center the shipment/return order of the product according to the difference between the corrected basic inventory quantity and the store inventory quantity of the product in the store.

It is desirable that the terminal device, in the display step, associates the shipment/return quantity of the product calculated based on the calculated basic inventory quantity and the store inventory quantity of the product in the store, with the product management information stored in the storage step, and performs the screen display thereof.

It is desirable that the terminal device further executes a reception step for receiving input of information for controlling the transmission to the prescribed distribution center by the transmission step; and, when information for conducting automatic transmission to the distribution center is input, the terminal device, in the transmission step, transmits the shipment/return order of the product to the prescribed distribution center.

Further, the present invention is also a store inventory management method for managing the inventory of a store in a system comprising a terminal device setup in the store, the shipment center, and an inventory database; wherein said inventory database stores the inventory quantity of the product stored in a prescribed site, and the terminal device executes: a calculation step for calculating the basic inventory quantity of the product to be retained by the store based on the sales record of the product in the store according to a shipment cycle sorted in a prescribed time unit; and a transmission step for calculating the reserve quantity according to the difference between the calculated basic inventory quantity and the store inventory quantity of the product in the store, and transmitting to a prescribed distribution center the shipment/return order of the product based on the reserve quantity and the inventory quantity of the product stored in the inventory database.

Moreover, it is desirable that the inventory database stores the inventory quantity of the product cancelled for sale in a first store which sells the product at a regular price as the inventory quantity of a non-operational product; and when the store corresponds to a second store which sells the product at a discounted price, the terminal device, in the transmission step, transmits to a prescribed distribution center the shipment/return order of the product based on the reserve quantity and the inventory quantity of a non-operational product stored in the inventory database.

It is desirable that the terminal device further executes: a product management information storage step for storing product management information containing product data of the product to be arranged in the store and the scheduled sale period of the product; and a setup step for determining whether the scheduled sale period of the product has ended according to the stored scheduled sale period of the product, and setting up information in the inventory database to the effect that the product is a non-operational product cancelled for sale in the first store when it determines that the scheduled sale period has ended.

Incidentally, in the present specification, an object invention can be comprehended as a method invention, and a method invention can be comprehended as an object invention. Further, the foregoing invention may also be a recording medium or program product having recorded thereon a program for causing a computer to realize prescribed functions. Moreover, the foregoing recording medium includes, for instance, a hard disk (HD), a DVD-RAM, a flexible disk (FD), a CD-ROM and the like as well as memories such as a RAM and ROM. In addition, the foregoing computer includes a so-called microcomputer and the like that performs prescribed processing by a so-called central processing unit such as a CPU or MPU interpreting a program.

Further, in the present specification, not only does the term "means" refer to

a physical means, it also includes cases where the functions held by such means being realized by software or hardware circuits. Moreover, the function of a single means may be realized by two or more physical means, and the function of two or more means may be realized by a single physical means.

In addition, means in the present specification can be realized by hardware, software or a combination of hardware and software. Execution with the combination of hardware and software, for instance, corresponds to the execution with a computer system having a prescribed program. And, the function of a single means may be realized with two or more hardware items, software programs or combinations of hardware and software, and the function of two or more means may be realized with a single hardware item, software program or a combination of hardware and software.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a diagram for explaining the basic concept regarding the basic inventory quantity based on the daily sales record;

FIG. 2 is an overall structural diagram for explaining the outline of the store computer loaded with the basic inventory adjustment program according to the present invention;

FIG. 3 is a diagram for explaining the data structure of the store inventory database;

FIG. 4 is a flowchart for explaining the processing flow of the basic inventory adjustment and shipment/return order in the store computer;

FIG. 5 is a diagram for explaining the condition of the basic inventory fluctuating according to the sales;

FIG. 6 is a diagram for illustrating the relationship between the daily sales and the store inventory;

FIG. 7 is an overall structural diagram for explaining the outline of the store computer loaded with the basic inventory adjustment program and storefront MD system according to the present invention;

FIG. 8 is a diagram illustrating the storefront MD map;

FIG. 9 is a diagram showing an example of the constitution of the storefront MD map screen;

FIG. 10 is a diagram showing an example of the constitution of the basic inventory setup screen;

FIG. 11 is a diagram showing an example of the constitution of the storefront MD map screen (arrival/return modification);

FIG. 12 is a diagram illustrating the relationship between the basic inventory fluctuation and storefront MD map;

FIG. 13 is a diagram showing an example of the constitution of the basic inventory quantity setup screen (details);

FIG. 14 is a diagram showing an example of the constitution of the arrival/return quantity modification screen;

FIG. 15 is a diagram for explaining the sales method in a discount store;

FIG. 16 is an overall structural diagram for explaining the outline of the regular store computer and discount store computer for realizing the store inventory management system according to the third embodiment;

FIG. 17 is a flowchart for showing the flow of the inventory reserve processing;

FIG. 18 is a diagram showing an example of the data structure of the distribution center inventory DB 601;

FIG. 19 is a flowchart showing the setup processing of non-operational product with the regular store computer 50;

FIG. 20 is a diagram showing the screen for explaining the setup of the non-operational product;

FIG. 21 is a diagram showing an example of the data structure of the regular store DB 602;

FIG. 22 is a diagram showing the condition in which the return order of the product is made;

FIG. 23 is a diagram showing an example of the constitution of the storefront MD map screen in the discount store;

FIG. 24 is a diagram showing an example of the constitution of the basic inventory setup screen in the discount store;

FIG. 25 is a diagram showing an example of the constitution of the arrival/return quantity modification screen in the discount store;

FIG. 26 is a flowchart showing another example of the inventory reserve processing; and

FIG. 27 is a diagram showing the corresponding relationship of the MD map and distribution center and the like.

BEST MODE FOR CARRYING OUT THE INVENTION

The embodiments of the present invention are now explained with reference to the drawings. Incidentally, although the present embodiment is explained regarding a case where the present invention is employed in the apparel field that handles clothing, the present invention is not limited thereto, and may also be applied to other business fields as appropriate.

Further, the shipment cycle in the present embodiment is a day unit, and explained is a case where the basic inventory quantity of the current day is calculated based on the daily sales record. Nevertheless, the present invention is not limited to a day unit, and may also be set by the hour. For instance, the shipment cycle may be set on a morning and afternoon basis.

[First Embodiment]

The first embodiment is now explained mainly around the basic inventory adjustment means for fluctuating the basic inventory quantity based on the sales record of the store.

(Fundamental Concept of Basic Inventory)

Fig. 1 is a diagram for explaining the fundamental concept regarding the basic inventory quantity based on the daily sales record. The basic inventory quantity is calculated based on the daily sales record and delivery lead time period (delivery L/T); that is, the period in which the product is actually delivered (or returned) to the store after the shipment/return order is transmitted from the store to the distribution system. Further, in this diagram, the delivery L/T is 2 days, and a calculation logic of "basic inventory = previous day sales (other than 0) × 2" is employed.

As shown in Fig. 1, according to the basic inventory adjustment means pertaining to the present invention, it is evident that the basic inventory quantity fluctuates daily in correspondence with the sales. Specifically, for example, the basic inventory quantity of day n+2 becomes "2 × 2 = 4 products" since "2 products" were sold in day n+1, and has increased in comparison to the basic inventory quantity (2 products) of day n+1. And, a shipment order of "4 products" has arisen such that the inventory coincides with the basic inventory.

Moreover, the basic inventory quantity of day n+4 becomes "3 × 2 = 6 products" since "3 products" were sold in day n+3, and has increased in comparison

to the basic inventory quantity (4 products) of day n+2. And, a shipment order of "5 products" has arisen such that the inventory coincides with the basic inventory.

Meanwhile, the basic inventory quantity of day n+6 will become "1 × 2 = 2 products" since the sales of day n+5 was "1 product", and it is obvious that it has decreased in comparison to the basic inventory quantity (6 products) of day n+5. And, a shipment order of "3 products" has arisen such that the inventory coincides with the basic inventory.

As described above, according to the basic inventory adjustment means pertaining to the present invention, since the basic inventory quantity fluctuates based on the daily sales record and the shipment/return order is made such that the store inventory coincides with the basic inventory, products are replenished or returned based on the sales record of the store.

Incidentally, although the foregoing explanation calculated the basic inventory quantity based of the current day based on the sales record of the previous day, the method of calculating the basic inventory is not limited thereto, and this may be set arbitrarily. For instance, a daily sales record coinciding with prescribed conditions may be selected from previous sales records, and the basic inventory quantity may be calculated based on such selected daily sales record.

(Overall Structural Diagram)

Fig. 2 is an overall structural diagram for explaining the outline of the store computer that realizes the store inventory management system pertaining to the present invention. As shown in the diagram, a store computer 10, 20 comprises a basic inventory adjustment means 101, 201 and a store inventory database 102, 202. Further, the store computers 10, 20 are constituted to be communicable with a distribution system 30 via a communication network such as the Internet.

The basic inventory adjustment means 101, 201 comprises a basic inventory

calculation means for calculating the basic inventory, and a shipment/return order transmission means for transmitting the product shipment/return order to the distribution center based on the calculated basic inventory. Specifically, the basic inventory calculation means reads out the daily sales record of the relevant store from the store inventory database 102, 202 and calculates the basic inventory of the current day. The shipment/return order transmission means transmits a shipment or return order of the product to the distribution system 30 such that the store inventory quantity in the store coincides with the basic inventory quantity.

The store inventory database 102, 202 stores the daily sales record of the store and inventory information. Incidentally, the constitution of the store inventory database 102, 202 is explained later with reference to Fig. 3.

When the distribution system 30 receives a shipment or return order of a prescribed product from the store computer 10, 20, it executes processing for shipping or returning such product. Incidentally, the processing for shipping the product in the present embodiment is conducted by the distribution system 30 performing processing for delivering the prescribed product to the store in accordance with the order from the store computer 10, 20. Moreover, the processing for returning the product in the present embodiment is conducted by the distribution system 30 performing processing for collecting the product that is returned from the store. In addition, the delivery L/T in the present embodiment is 2 days.

The store computer 10, 20 corresponds to a versatile computer typically comprising a control means, an input means, an output means and a storage means, and the basic inventory adjustment means 101, 201 cooperates with other hardware to make the store computer realize prescribed functions (calculation function of the basic inventory, shipment/return order function and so on).

Incidentally, in the present embodiment, although explained is a case where

the store computer comprises a basic inventory adjustment means and also has a store inventory database, for instance, the present invention may also be constituted to be a client/server system formed from a terminal device (client) set up in a plurality of stores and a server set up in the head office. In such a case, typically, the client is equipped with a web browser, and the server is equipped with a web server program, and the two are mutually connected via a communication network such as the Internet. And, the server comprises the basic inventory adjustment means 101, 201 and the store inventory database 102, 202, and executes prescribed processing such as basic inventory adjustment processing based on the order from the client.

Further still, the store inventory database 102, 202 may be provided in an external database server, and not in the store computer or foregoing server. Typically, this would correspond to a database server that collectively manages the inventory of a plurality of stores. Here, the store computer 10 or foregoing server will access the database server and execute prescribed processing such as basic inventory adjustment processing.

Incidentally, since the store A computer 10 and store B computer 20 in this embodiment have the same constitution, the store A computer 10 is explained below.

(Database Constitution)

Fig. 3 is a diagram for explaining the data structure of the store inventory database. The store inventory database 102 is used for managing the sales record and inventory information (store inventory information) of the store, and the store inventory information is updated in real time. Specifically, the store inventory database 102 is constituted by containing the items of "Week", "Day", "Sales", "Arrival of Product", "Inventory", "Shipment Order", "MAX" and so on. Incidentally, these records in the present embodiment are classified into a product (SKU) unit in advance, and an explanation regarding product A, which is clothing, is provided in

this embodiment.

Here, "Week" is used for managing the sales record on a weekly basis, and the current week information of the current day is stored therein. "Day" is used for managing the sales record in a day unit, and the date information of the current day is stored therein. "Sales" stores the quantity of product A sold in the current day. "Arrival of Product" stores the scheduled quantity of arrival of product A in the current day. In other words, when the delivery lead time is 2 days, this corresponds to the quantity of products for which a shipment order was made in the previous day, and which is also the quantity of products currently being shipped. Incidentally, when product A is to be returned instead of arriving, the return quantity is stored as a negative number. "Inventory" stores the inventory quantity of product A in the current day. "Shipment Order" stores the number of products ordered with the shipment order when the store inventory is less than the basic inventory.

"MAX" is used for managing the maximum value of the daily sales record, and the maximum value of the daily sales determined under prescribed conditions is stored therein. The maximum value (MAX) of the daily sales is modified based on the daily sales record, and, in the present embodiment, is modified in accordance with 2 logics for calculating the basic inventory, but this point is described later.

(Basic Inventory Adjustment Processing)

Fig. 4 is a flowchart for explaining the processing flow of the basic inventory calculation processing and shipment/return order processing in the store computer. As a precondition, at the time of initially inputting product A, the initial sales value and delivery L/T shall be set in advance. In this embodiment, the initial sales value shall be set to "1 (product)" and the delivery L/T to "2 (days)". Incidentally, these values may be arbitrarily set, and may also be modified during the deployment of the product.

Here, the present invention adjusts the basic inventory of the store to be optimum by calculating, on a daily basis, the basic inventory of the product according to the daily sales record. Specifically, when the daily sales record increases, the basic inventory is also increased to input more products, and, when the daily sales record decreases, the basic inventory is also decreased to reduce the number of products to be input.

Thus, foremost, in the present embodiment, the store inventory is managed in accordance with the period sorted in a prescribed day unit. Here, a prescribed day unit is a 7-day unit. Although the sorted period is explained as "on a weekly basis" below, the term "week" used herein is not limited to a week which begins on Monday, and the day of the week to be starting day of the week may be set arbitrarily.

Next, the present embodiment employs 2 logics as an example of adjusting the basic inventory on a weekly basis. The first logic (hereinafter referred to as the "midweek logic") is a logic applied when the target day falls under the first day of the week, and the second logic (hereinafter referred to as the "week-start logic") is a logic applied when the target day falls under a day other than the first day of the week.

The midweek logic adopts the maximum sales record of the current week as the maximum sales value, and calculates the basic inventory by multiplying the delivery L/T to this maximum value. Meanwhile, the week-start logic sets the maximum sales value of the current week based on the maximum sales record of the previous week and calculates the basic inventory by multiplying the delivery L/T to this maximum value.

In the midweek logic, the maximum sales value is updated when the sales increase, and the basic inventory increases thereby on the one hand, when the sales decrease, the basic inventory will not decrease since the maximum sales value will

be maintained. Therefore, according to the midweek logic, sufficient basic inventory will be secured from midweek to weekend, and the situation of having inadequate inventory, during the weekend when sales of products are the most expected, can be prevented.

Meanwhile, in the week-start logic, since the maximum sales value of the current week is set based on the maximum sales record of the previous week, when there is excess store inventory, products will be returned. Thus, for example, when the inventory secured for the weekend goes unsold, such inventory will be returned at the start of the week, and a situation of excess inventory can be avoided thereby.

Incidentally, in the present embodiment, since the starting day of the week is set to "Monday", "midweek" implies Tuesday through Saturday, and "week-start" implies "Monday". This is in consideration of the fact that more products are sold on Saturday and Sunday. Nevertheless, the starting day of the week may be set arbitrarily, and it is desirable that a preferred day of the week be set in accordance with the sales condition of products in the store. Incidentally, since a shipment/return order is not made on a Sunday, Sunday is not considered in this embodiment.

Incidentally, the midweek logic and week-start logic are examples of the logic in the basic inventory adjustment program pertaining to the present embodiment, and the present invention is not limited to these logics. In other words, the present invention adjusts (fluctuates) the basic inventory based on the daily sales record, and conditions and the like for determining the maximum sales value among the daily sales records may be set as appropriate. For instance, logic may be created to constantly calculate the basic inventory of the current by based on the sales record of the previous day.

Next, the basic inventory adjustment processing pertaining to the present invention is explained with reference to the flowchart illustrated in Fig. 4. Foremost,

the store computer executes the basic inventory adjustment processing according to S401 to S410. First of all, the store computer determines whether the current day is the day of initial shipment (S401), and, when it determines that the current day is the day of initial shipment, it calculates the basic inventory by calculating "basic inventory = initial value (initial input quantity) × delivery L/T" (S402). Incidentally, regarding whether the current day is the day of initial shipment, this can be determined by storing the shipment date of the initial shipment of the product in advance, and verifying the shipment date with the current day.

Next, when the store computer determines that the current day is not the day of initial shipment, it determines whether the current day falls under midweek (Tuesday to Saturday) (S403), and, when it determines that the current day falls under midweek, it calculates the basic inventory according to the midweek logic. Specifically, the store computer determines whether the previous day sales data is the maximum value of the current week (S404). When it is determined that the previous day sales data is the maximum value of the current week, the maximum value of the current week is updated based on the previous day sales data (S405). Incidentally, this updated value is stored in "MAX" of the store inventory database.

Then, the store computer calculates the current day basic inventory based on "basic inventory = maximum value of current week × delivery L/T" (S406). Incidentally, the store computer does not update the maximum value of the current week when it determines that the previous day sales data is not the maximum value of the current week.

Further, when the store computer determines that the current day does not fall under midweek (Tuesday to Saturday), it determines whether the current day falls under the week-start (Monday) (S407), and, when it determines that the current day falls under the week-start, it calculates the basic inventory according to the

week-start logic. Specifically, the store computer determines whether the previous week sales data is 0 (S408), and, when it determines that the previous week sales data is not 0, it calculates the basic inventory of the current day based on "basic inventory = maximum value of previous week × delivery L/T" (S409). Meanwhile, when it is determined that the previous week sales data is 0, "Basic Inventory" is set to "1" (S410).

When the store computer completes the basic inventory adjustment processing of the current day with steps S401 to S410, it executes shipment/return order processing of product A such that the calculated basic inventory coincides with the store inventory.

Specifically, the store computer determines whether the basic inventory exceeds the total (store inventory) of the previous day inventory and shipped inventory (S411), and, when it determines that the basic inventory exceeds the store inventory, it transmits a shipment order with the shipment quantity being the difference thereof (S412). Meanwhile, when the store computer determines that the basic inventory does not exceed the store inventory, it determines whether the basic inventory is less than the total (store inventory) of the previous day inventory and the shipped inventory (S413), and, when it determines that the basic inventory is less than the store inventory, it transmits a return order with the return quantity being the difference thereof (S414).

According to the above, it is possible to automatically adjust the midweek basic inventory and week-start basic inventory based on the daily sales record, and to make a shipment/return order based on such adjusted basic inventory.

Incidentally, the operation of the store computer is not limited to the processing flow described above, and, so as long as there is no inconsistency in the operation thereof, the order of processing may be interchanged, or the processing

may be performed in parallel.

(Fluctuation of Basic Inventory)

Fig. 5 is a diagram for explaining the condition of the basic inventory fluctuating based on the sales. Foremost, since the initial input made on September 3 is initial value = 1 and delivery L/T = 2, the basic inventory is "1 × 2 = 2", and a shipment order of 2 products is made. Thus, "2" is indicated in the column of shipment order (a in Fig. 5). Incidentally, since there are no sales in the input week (week 37), no shipment order is made thereafter.

Next, regarding 9/10 (Mon) of week 37, the basic inventory is to be calculated according to the adjusted logic of the week-start basic inventory, but the sales are "0" in the previous week, which is week 36 (9/3 to 9/9). Thus, "1" is set in the column of basic inventory and a return order of 1 product is made since the previous day inventory is 2 products. Thus, "-1" is indicated in the column of arrival of product (b of Fig. 5).

Next, regarding the following 9/12 (Wed), the basic inventory is to be calculated according to the adjusted logic of the midweek basic inventory, but the maximum sales value of the current week has occurred due to the sale of 1 product the previous day (c of Fig. 5). Thus, the basic inventory is calculated as "1 × 2 = 2", and a shipment order for 2 products is made (c of Fig. 5).

Further, regarding 9/17 (Mon) of week 38, the basic inventory is to be calculated according to the adjusted logic of the week-start basic inventory, the maximum sales value of week 37, which is the previous week, is 2 products. Thus, the basic inventory is calculated as "2 × 2 = 4", and a shipment order for 4 products is made so as to make the store inventory 4 products (d of Fig. 5).

Meanwhile, regarding 9/21 (Thu) of week 38, the basic inventory is to be calculated according to the adjusted logic of the midweek basic inventory. Although 1

product was sold on the previous day of 9/20, the sales have decreased in comparison to 9/18, and, since the maximum sales value of the current week (week 38) is "3", the maximum sales value is not updated. Thus, the basic inventory is calculated as "3 × 2 = 6", and a shipment order for 1 product is made so as to make the store inventory 4 products (e of Fig. 5).

(Relationship between Daily Sales and Store Inventory)

Fig. 6(A) is a graph showing the relationship between the daily sales and store inventory. According to this graph, since products are returned at the week-start from stores having excess inventory, inventory is fluctuating on a weekly basis.

Fig. 6(B) is a graph showing the relationship between the cumulative sales and cumulative inventory. According to this graph, since the store inventory is set, the consumption rate at the storefront is higher at an earlier stage.

Fig. 6(C) is a graph showing the relationship among the input quantity, required inventory and return quantity. In the present embodiment, although 1 product is equally distributed to each store, if there are no sales in the week of arrival of the product, a return order will be made the following week based on the week-start logic. Thus, consequently, such product will be used to replenish other stores requiring such product. In other words, since the returned product is used to replenish the stores requiring such product, transfer of the product among stores is enabled as a result thereof, and the total inventory quantity can be suppressed thereby.

As described above, according to the present embodiment, as a result of calculating the basic inventory on a daily basis based on the daily sales record of the stores, store inventory quantity according to the sales power of the store can be secured, and, consequently, the sales of the store can be increased.

Further, according to the present embodiment, while the inventory of stores

having poor sales is returned to the distribution center, inventory of the distribution center is used to replenish the stores enjoying large sales, and the transfer of products among stores is enabled as a result thereof.

Moreover, according to the present embodiment, since the shipment and return order of products can be made automatically such that the store inventory and basic inventory coincide, in addition to being able to alleviate the workload of the head office, excess inventory resulting from unsold goods can be avoided.

In addition, according to the present embodiment, since appropriate inventory will be secured in stores according to the sales of products, sales of products effectively utilizing the store space will be enabled.

[Second Embodiment]

The second embodiment is an application of the first embodiment. In the foregoing embodiment, a case was explained where the store computer 10 automatically updates the basic inventory based on the daily sales record of the store, and automatically transmits the shipment/return order of product A such that the updated basic inventory coincides with the store inventory.

In other words, with the foregoing embodiment, since the basic inventory is automatically updated and the shipment/return order is automatically made, it is difficult for the person in charge of the store to comprehend the basic inventory quantity and shipment/return order quantity, or to increase or decrease the basic inventory quantity and shipment/return quantity.

Thus, in the second embodiment, a means has been provided for displaying on the store computer 10 the basic inventory quantity and shipment quantity (return quantity) automatically calculated with the basic inventory adjustment means.

Further, in the second embodiment, a means for enabling the person in charge of the store to freely increase or decrease the basic inventory quantity and

shipment/return quantity has been provided, and a means for canceling the automatic shipment/return processing by the basic inventory adjustment means has been provided.

As a result, the person in charge of the store may easily comprehend the basic inventory quantity and shipment/return quantity, and, in accordance with situations unique to the store (demands of consumers of the store, events and so on), such person in charge is able to increase or decrease the basic inventory quantity or cancel the automatic shipment/return processing.

(Overall Structural Diagram)

Fig. 7 is an overall structural diagram for explaining the outline of the store computer pertaining to the second embodiment. In Fig. 7, components having the same constitution as Fig. 1 are given the same reference numerals, and the explanation thereof is omitted.

The store computer 10 for realizing the store inventory management system pertaining to the second embodiment, in addition to the basic inventory adjustment means 101 and store inventory database 102, comprises a storefront MD system (storefront MD management means) 103 and a storefront MD map database 104.

The storefront MD system 103 is used for managing the storefront MD map described later. Specifically, the storefront MD system 103 comprises a display means for associating the product management information read out from the storefront MD map database 104 and the basic inventory quantity or shipment/return quantity calculated with the basic inventory adjustment means 101, and displaying the screen thereof. Further, the storefront MD system 103 comprises a correction means for receiving an input from the person in charge of the store made with the displayed screen, and correcting the information of the basic inventory quantity and shipment/return quantity. In addition, the storefront MD system 103 also comprises

an update means for updating the corrected storefront MD map in the storefront MD map database 104.

Incidentally, the storefront MD map database 104 is used for storing the storefront MD map.

Further, in the present embodiment, the head office computer 40 is constituted to be communicable with the store computer 10 via a communication network. The head office computer 40 comprises an MD system 401 and an MD map database 402. The MD system 401 is used mainly for creating the MD map described later, and the MD map DM (*sic.*) 402 is used for storing the created MD map. Incidentally, the MD system 401 is constituted to be communicable with the product planning system, product development system, production preparation system, production system and the like (none are shown), and the information on the MD map stored in the MD map database 402 can be referred to from these systems.

(Storefront MD Map)

Here, the storefront MD map is explained with reference to Fig. 8. "MD map" as used in this embodiment implies the product management information (hereinafter referred to as the "MD map (Merchandizing Map)" for specifying the product lineup in the store.

As shown in the diagram, the MD map can be classified, in the order that it is created, into a standard MD map, a type MD map and a storefront MD map. The type MD map is created based on the standard MD map, and the storefront MD map is created based on the type MD map.

The standard MD map, for instance, is used to decide the product management information for specifying the product lineup in the store based on the strategy of the overall brand, and is constituted to contain the most standard product management information. The type MD map is created based on the standard MD

map, and is constituted to contain the product management information required in the respective areas within the scope prescribed in the standard MD map. And, the storefront MD map is created based on the type MD map, and is constituted to contain the product management information required in the respective areas within the scope prescribed in the type MD map.

As described above, since the storefront MD map created last includes product management information for specifying the product lineup of the store, the person in charge of such store is able to engage in actual business activities based on such storefront MD map.

Incidentally, the MD maps created in stages as described above are used to prescribe the product lineup of the all of the stores or the product lineup of the respective stores; that is, they are used for prescribing the inventory status, and, if the arrangement (distribution) of the actual products is set based on the information of such MD maps, delivery to stores can be conducted more efficiently.

For example, Fig. 27 is a diagram showing the relationship between the respective MD maps and the center and store in which the products are arranged. The distribution center (DC), area satellite (AS) and store are respectively associated with the standard MD map, type MD map and storefront MD map. Here, the distribution center and area satellite are storage sites for temporarily storing the manufactured products. The distribution center is the storage site to become the base, and is set up for each prescribed area (for instance, Kanto area and Kansai area). The area satellite is set up as a relay point between the distribution center and store, and is set up for each area in which the areas of the distribution center are further broken down (for instance, Tokyo, Nagoya and so on).

Products manufactured according to the MD maps are distributed to the stores from the distribution center via the area satellite. Since the distribution of the

products from the distribution center to the area satellite is conducted based on the type MD map corresponding to the respective area satellites, products required in the respective areas may be distributed appropriately. In other words, since products required in the stores belonging to the relevant area have already been distributed to the area satellite, the delivery lead time from the area satellite to the respective stores can be shortened.

As described above, as a result of associating the respective MD maps in which the inventory status of products has been logically prescribed with the locations to which the products are to be physically arranged, and arranging the products according to such association, the delivery of products can be conducted efficiently.

Incidentally, an MD map is set for a certain period (1 season for instance), and is managed by being sorted in a prescribed period unit. The prescribed period unit may be set to match the product cycle, and, for example, when targeting clothing, it would be adequate to set this to be on a weekly basis. An MD map sorted in a prescribed period unit is hereinafter referred to as a unit MD map.

This unit MD map contains product quantity and product data of products to be arranged in a model store during the sorted period as information for specifying the product lineup in the model store. Product data is information for specifying the product, and is constituted from a plurality of attributes. When targeting clothing, typically, the theme, product category (item), material, color, size and the like are contained as attributes of the product data.

Further, an MD cycle is set in an MD map. An MD cycle is the scheduled sale period of the product freely set in accordance with the characteristics of the product. The period of the MD cycle in an MD map, for instance, is set to include one or a plurality of unit MD maps continuing in the time direction based on the transition

sales or sales trend, season and so on.

Here, information for specifying these products can be comprehend to be used for setting the product form the aspect of "quality", and information such as the sales record of the product can be comprehend to be used for setting the product from the aspect of "quantity".

Accordingly, in the present embodiment, as a result of concurrently displaying the product management information for specifying the product lineup of the store and the sales record or basic inventory of the store in the storefront MD map created based on the standard MD map and type MD map, the setting of quality and the setting of quantity according to the characteristics of the store are enabled on the same map. As a result, the work operation in the store can be simplified and the confirmation of status can be facilitated.

(Screen Constitution of Storefront MD Map)

Fig. 9 is a diagram showing an example of the constitution of the storefront MD map screen. The storefront MD map screen is used to display the product management information for specifying the product lineup in the store. The storefront MD system 103, upon receiving the order from the person in charge of the store based on the menu screen not shown, reads out the information relating to the storefront MD map of the current day from the storefront MD database 104, and displays this on the screen.

As shown in the diagram, displayed on the storefront MD map screen are information regarding the MD week, store name, sales ranking, and the theme, as well as the products being deployed in the store during the current week. Further, the storefront MD map screen also comprises a button for switching to the basic inventory quantity setup screen, and a button for switching to the input/return quantity setup screen.

The person in charge of the store is able to comprehend the status of the storefront of the current day based on this storefront MD map screen, and is able to switch to the other screens by selecting the respective buttons.

Fig. 10 is a diagram showing an example of the constitution of the basic inventory setup screen. The basic inventory setup screen is used for displaying the basic inventory of the product displayed in the storefront MD map screen. When the person in charge of the store selects the "basic inventory" button of the storefront MD map screen illustrated in Fig. 9, the storefront MD system 103 switches to the selected screen. As shown in the diagram, the basic inventory quantity calculated with the basic inventory adjustment means 101 is associated with the product management information and displayed on the basic inventory setup screen.

Here, on the storefront MD map, the basic inventory is represented with a concept of face and back. Face implies the area where products are arranged in the storefront (e.g., display space), and back implies the area where products are stored inside the store (e.g., storage space). Thus, face represents the inventory quantity of products to be arranged in the storefront of the store, and back represents the inventory quantity of products to be stored inside the store. For example, when face is "0" and back is "9", products are not displayed in the display space of the store, and there are 9 products in the storage space inside the store. Incidentally, since the basic inventory is calculated by "face + back = basic inventory", the basic inventory will be "9".

Further, the value of "face" is preset with the product management information of the storefront MD map. Thus, the storefront MD system 103 displays back as a value obtained by subtracting face from the basic inventory quantity calculated with the basic inventory adjustment means 101.

As a result of this basic inventory setup screen, the person in charge of the

store is able to comprehend the status of the basic inventory of the current day, and also able to switch to the other screens by selecting the buttons.

Incidentally, the value of face set in the product management information is preset in accordance with the capacity of the store (arrangement space of products), and, typically, is decided based on fixtures such as racks and shelves of the store. Conventionally, the inventory of stores was comprehended and managed without differentiating the products arranged in the storefront and the products stored inside the store. Nevertheless, according to the present invention, since the inventory of stores can be comprehended by separating such inventory into face and back as described above, inventory management focusing on the inventory quantity of products arranged in the storefront of the store is enabled.

Further, according to the present invention, when fluctuations occur in the basic inventory quantity according to the sales, since only back will actually fluctuate (face will not fluctuate), the product display can be maintained even when the inventory quantity fluctuates. In the apparel industry which sells clothing, the number of products to be displayed at the storefront is decided from the perspective of "how to display the product" handled by the store; that is, it is decided based on the "product display". Since this product display is decided to seek a uniform image in the respective stores based on the premise of the store capacity (arrangement space of products), store A and store B having the same level of capacity will have a similar product display (face quantity). Nevertheless, if the inventory quantity of the product to be displayed in the storefront is fluctuated based on the sales record of the product, the product display of store A and store B, which went through the trouble of seeking a uniform image, will become different, and this is inappropriate. Thus, in the present invention, the quantity of back stored inside the store is fluctuated according to the fluctuation of the basic inventory quantity. As a result, while realizing the basic

inventory quantity according to the sales record of the store, a product display giving consideration to the store capacity can also be realized.

Fig. 11 is a diagram showing an example of the constitution of the storefront MD map screen (arrival/return quantity modification). The storefront MD map screen (arrival/return quantity modification) is for associating the scheduled quantity of arrival or scheduled quantity of return of the product of the current day with the product management information and displaying the same.

As shown in the diagram, on the storefront MD map screen (arrival/return quantity modification), the arrival or return quantity read out from the store inventory database 102 is displayed for each product. Incidentally, the user can access this screen by selecting the "arrival/return" button of the storefront MD map screen illustrated in Fig. 9.

Based on this storefront MD map screen (arrival/return quantity modification), the person in charge of the store is able to comprehend the arrival/return status of the current day, and switch to another screen by selecting the button.

Fig. 12 is a diagram representing the relationship of the fluctuation of the basic inventory, and the storefront MD map. According to this diagram, storefront MD maps 12a to 12c are updated on a weekly basis, and the basic inventory of the current day (display date) is being displayed.

For instance, February 15 is the day of initial input of the product, and, in relation to the basic inventory of "2", the face and back of the storefront MD map 14a are displayed respectively as "1" and "1" (a of Fig. 12).

Next, on February 22, the basic inventory is updated to "4", and the face and back of the storefront MD map 14b are displayed respectively as "1" and "3" (b of Fig. 12).

And, the storefront MD map 14c shows a display of March 4, but since the

basic inventory of March 4 is "2", the face and back of the storefront MD map 14c are displayed respectively as "1" and "1" (c of Fig. 12).

As described above, since the storefront MD system 103 automatically sets and displays the basic inventory in relation to the product (SKU) on the storefront MD map, the person in charge of the store is able to easily confirm the basic inventory fluctuating according to the daily sales record on the storefront MD map, as well as manage the store inventory based on the storefront MD map.

Fig. 13 is a diagram showing an example of the constitution of the basic inventory quantity setup screen (details). The basic inventory quantity setup screen (details) is a screen for displaying the detailed information relating to the basic inventory, and for the person in charge of the store to adjust the basic inventory. As shown in the diagram, provided to the basic inventory quantity setup screen (details) are display items per product, such as the inventory, shipment, basic inventory (face, back), basic inventory adjustment and so on.

The storefront MD system 103, by referring to the store inventory database 102, respectively displays the inventory quantity and shipment quantity in the columns of "Inventory" and "Shipment". Specifically, the value stored in the "inventory" of the store inventory database 102 is displayed in the column of "Inventory", and the value stored in the "shipment order" of the previous day of the store inventory database 102 is displayed in the column of "Shipment".

Face of the "basic inventory" is displayed with the value preset with the MD map, and back is displayed with a number obtained by subtracting face from the basic inventory. Incidentally, the basic inventory of the current day is calculated with the basic inventory adjustment means 101 described above.

Here, the column of "basic inventory adjustment" is used by the person in charge of the store to input a value for arbitrarily adjusting the basic inventory.

Generally speaking, the respective fields are constituted to enable input operations, and, for example, when adding 1 product to the basic inventory, "+1" is input. When a prescribed value is input in the basic inventory adjustment column, the basic inventory adjustment means 101 refers to this value and adjusts the value of the basic inventory. As a result, the person in charge of the store is able to personally adjust the basic inventory quantity as his/her will.

Fig. 14 is a diagram showing an example of the constitution of the arrival/return quantity modification screen. The arrival/return quantity modification screen is for displaying detailed information on the arrival/return quantity, and also used by the person in charge of the store to input the ON/OFF of the automatic arrival/return function.

As shown in the diagram, provided to the arrival/return quantity modification screen are display items per product such as the inventory, shipment, basic inventory (face, back), arrival (quantity, automatic), return (quantity, automatic), and so on. Among the foregoing display items, "Inventory", "Shipment" and "Basic Inventory" are the same as those explained with reference to Fig. 13. "Arrival" and "Return" represent the arrival quantity or return quantity of product A on the current day (display day), and are displayed based on the store inventory database 102.

Incidentally, "automatic" in "arrival" and "return" is used for placing a check regarding whether to use the arrival/return processing of the basic inventory adjustment means 101. When a check mark is placed in "automatic", the basic inventory adjustment means 101 automatically performs the arrival/return processing, and, when a check mark is not placed in "automatic", it does not perform the arrival/return processing. As a result, the person in charge of the store is able to personally increase or decrease the arrival or return quantity of the product or cancel the automatic shipment/return processing at his/her own will.

Further, the present invention is also able to cancel the product deployed (set) in the storefront MD map pursuant to the judgment of the store side, or newly deploy a product not deployed in the storefront MD map pursuant to the judgment of the store side.

Specifically, when the person in charge of the store wishes to cancel the deployment of a product deployed in the storefront MD map (when intentionally returning the product), face and back are respectively set to "0". When face and back are respectively set to "0", the storefront MD system 103 sets the basic inventory to "0". Since the basic inventory is set to "0", if it is midweek, the basic inventory adjustment means 101 does not replenish the inventory regarding such product thereafter, and a return order will be made at the following week-start.

Meanwhile, when the person in charge of the store wishes to newly deploy a product that is not deployed in the storefront MD map (when newly shipping a product), a desired product is selected on a prescribed screen, and face and back are arbitrarily set regarding such product. In addition to receiving the selection of the product, the storefront MD system 103 calculates the basic inventory based on the value set to face and back. The basic inventory adjustment means 101 transmits a shipment order of the product based on the calculated basic inventory. Incidentally, when newly deploying a product that is not deployed in the storefront MD map, it would be appropriate to set conditions such as the selection being made among products in which the inventory thereof exists in the distribution center.

According to the above, the person in charge of the store will be able to realize an ideal storefront state by correcting the storefront MD map within the scope of applicable conditions (e.g. within the scope of inventory that can be prepared during the current week).

[Third Embodiment]

The third embodiment (hereinafter referred to as "this embodiment") is an application of the foregoing first and second embodiments.

Foremost, in this embodiment, a shipment/return order of a product is transmitted to the distribution center in which the basic inventory and store inventory coincide. Nevertheless, the distribution center side is not able to ship the products as per the shipment order if the inventory satisfying the shipment order does not exist in the prescribed storage site of the distribution center or the like.

Therefore, in this embodiment, prior to transmitting the shipment/return order of the product, whether the inventory of the product exists in a prescribed storage site is confirmed, and the shipment order is transmitted according to such storage status. Specifically, the inventory quantity of the prescribed storage site is verified based on the value obtained by subtracting the store inventory quantity from the basic inventory quantity (hereinafter referred to as the "reserve quantity"), and the shipment order is created and transmitted based on such verification result. According to the above, the shipment order can be transmitted upon confirming the storage status of the product.

Moreover, in this embodiment, the store inventory management system is employed in a plurality of stores having a different sales format. As stores having different sales formats, typically, a store that sells products at a regular price and a store that sells unsold products at a discounted price correspond thereto. The former is hereinafter referred to as a "regular store" and the latter as a "discount store". In addition, a product subject to sales at a regular store is referred to as an "operational product", and a product cancelled for sale at a regular store is referred to as a "non-operational product".

Here, the conventional sales method in a discount store is explained with reference to Fig. 15(A). In Fig. 15(A), the operational product is represented with "•"

and the non-operational product is represented with "o". All of the products are initially an operational product, and are replenished from the distribution center to the regular stores A and B according to prescribed distribution conditions. Thereafter, a certain product is cancelled for sale at the regular stores A and B due to prescribed reasons (e.g., lapse of the scheduled sale period). Products which become non-operational are returned and stored in the distribution center. The administrator ships the non-operational product stored in the distribution center to the discount store C at a prescribed timing. The non-operational product is shipped from the distribution center to the discount store C, and sold at the discount store at a discounted price.

Since the products sold at a discount store as described above are products that become non-operational at a regular store, the type and inventory of the product in the discount store will be significantly affected by the sales status at the regular store. Therefore, a discount store easily falls into a state of merely selling the unsold goods of a regular store, and it was difficult to management the lineup and inventory of the product as with a regular store. Further, since the non-operational product will be always be stored in the distribution center until the administer gives an order, if the storage period extends over a long period of time, it was not possible to efficiently sell the non-operational product.

Thus, this embodiment is characterized in employing the store inventory management system in a discount store. Nevertheless, a regular store and a discount store handle different products (a regular store handles operational products, whereas a discount store handles non-operational products).

Therefore, in this embodiment, with respect to the prescribed functions, the processing contents can be selected according to the type of store. For example, regarding the function of transmitting a shipment order of a product, in the case of a

regular store, a shipment order of a product targeting an operational product in a prescribed storage site is made, whereas in the case of a discount store, a shipment order of a product targeting a non-operational product in a prescribed storage site is made. Incidentally, a prescribed storage site is not limited to a place primarily used for storage such as the distribution center or area satellite, and includes sites primary used for selling products such as a regular store that also stores products.

According to the above, it will be possible to conduct appropriate management of the store inventory and appropriate management of product information even at a discount store. Fig. 15(B) represents a condition in which, as a result of employing the store inventory management system in a discount store, a product which become non-operational at the regular store B is automatically shipped to the discount store C, and a condition in which a non-operational product is automatically replenished or returned between the discount store and the distribution center. The application of the store inventory management system in a regular store and discount store is now explained in detail.

(Overall Structural Diagram)

Fig. 16 is an overall structural diagram for explaining the outline of the regular store computer and discount store computer realizing the store inventory management system pertaining to this embodiment. In Fig. 16, the components having the same constitution as those illustrated in Fig. 7 are given the same reference numerals, and the explanation thereof is omitted.

In Fig. 16, the discount store computer 50, in addition to the basic inventory adjustment means 501 and the store inventory database 502, comprises a storefront MD system 503 and a storefront MD map database 504. Further, the regular store computer 10' and the discount store computer 50 are constituted to be communicable with the inventory management computer 60 via a network. The

inventory management computer 60 comprises a distribution center inventory database 601 for storing inventory information of the product stored in a storage site such as a distribution center, and a regular store inventory database 602 for storing inventory information of the regular store.

(Reserve Processing: For Regular Stores)

Next, the reserve processing in the regular store computer 10' is explained. Fig. 17 is a flowchart showing the flow of the inventory reserve processing. Foremost, the regular store computer 10' calculates the basic inventory quantity of product A for instance (S1701), and reads the store inventory quantity of product A from the store inventory DB 102 (S1702). It then calculates the reserve quantity of product A by subtracting the read store inventory quantity from the calculated basic inventory quantity (S1703). Here, let it be assumed that the basic inventory quantity of product A was calculated to be "4", the store inventory quantity to be "2", and the reserve quantity to be "4 – 2 = 2".

Next, the regular store computer 10' determines the type of store (S1704). The store information used for this determination is preset per store. Here, a store flag is provided, "1" is set to a regular store, and "2" is set to a discount store. Thus, "1" is set as the store flag of the regular store computer 10. Since the store flag of the regular store computer 10 is set to "1", the store is judged to be a regular store, and the distribution center inventory DB 601 is accessed thereby (S1705).

Fig. 18 is a diagram showing an example of the data structure of the distribution center inventory DB 601. The distribution center inventory DB 601 stores inventory information of products stored at a site primarily used for storage such as the distribution center. In other words, it stores information of products that can be shipped to a regular store. Specifically, the distribution center inventory DB 601 is constituted by including the items of "location", "BR", "part number", "size", "color",

"quantity" and so on. Incidentally, the code number of the storage site of the product, such as the distribution center or area satellite, is stored in "location". A prescribed number for specifying the brand of the product is stored in "BR". A prescribed number for specifying the item and material of the product is stored in "part number".

The regular store computer 10' refers to the distribution center inventory DB 601 according to "BR", "part number", "size" and "color" of product A, and obtains the inventory quantity of product A (S1705). It then verifies the reserve quantity calculated at S1703 and the inventory quantity so as to calculate the shipment quantity (S1706). Specifically, when the reserve quantity less than or equal to the inventory quantity of the distribution center inventory DB 601, such reserve quantity is adopted as is. Contrarily, when the reserve quantity is greater than the inventory quantity of the distribution center inventory DB 601, the inventory quantity of the distribution center inventory DB 601 becomes the shipment quantity.

Here, if the attribute information of product A is "BR = 153", "part number = 10000", "size = 07" and "color = 019", the inventory (quantity) of product A is "0". Thus, in relation to the reserve quantity of "2", the inventory quantity is "0", and product A cannot be reserved. As a result, the shipment quantity of product A is set to "0".

The regular store computer 10' transmits the shipment/return order of product A to the distribution center 30 based on the set shipment quantity (S1709). Here, since the inventory of product A does not exist at the storage site, in reality, a shipment order is not made.

(Setup of Non-operational Product)

Next, a case where product A becomes non-operational at a regular store and is shipped to a discount store is explained.

The regular store computer 50 (store inventory management system)

pertaining to the present embodiment comprises a setup means of a non-operational product which determines whether the operational product became a non-operational product, and, when it determines that the operational product became a non-operational product, sets such operational product as a non-operational product. The prescribed condition in this embodiment is that the product prescribed in the storefront MD map is excluded from the storefront MD map. When a product is excluded from a storefront MD map, this means that the sale of the product in a regular store has been cancelled.

(1) Basically, a product on the storefront MD map will automatically be excluded from the storefront MD map when the MD cycle is finished. When the regular store computer 50 determines that the MD cycle has ended, it deletes the product management information (part number, SKU number and so on) of the relevant product from the storefront MD map, and sets such product as a non-operational product. The specific setting of a non-operational product will be explained later with reference to Fig. 21.

(2) Nevertheless, even before the MD cycle is ended, the person in charge of the regular store side may control the product management information of the product an intentionally delete such product from the storefront MD map. For example, when the operational status of the product is inferior (poor sales), or when a component in a combination product (2 or more products to be used simultaneously like an ensemble) is short stocked, even before the MD cycle is ended, a product may be excluded from the storefront MD map. When the person in charge of the regular store side designates the product management information of a product displayed on the storefront MD map as a subject of deletion, the regular store computer 50 deletes the product management information of the designated product from the storefront MD map, and sets such product as a non-operational

product.

(3) Incidentally, in a case where the operational status of a product is inferior, there may be cases where a product is deemed deleted from the storefront MD map as a result of controlling the basic inventory quantity of such product. In other words, when the person in charge of the regular store side sets the basic inventory quantity of the product to zero, although the product management information of the product will exist on the storefront MD map, in reality, the product will be deemed deleted from the storefront MD map. This is because, with a product in which the basic inventory quantity thereof is set to zero, although the product management information will exist on the storefront MD map, the product will not actually be replenished. When the person in charge of the regular store side set the basic inventory quantity of the product to zero, the regular store computer 50 sets such product as a non-operational product.

According to the above, products on the storefront MD map will be respectively excluded from the storefront MD maps (1) when the MD cycle is ended, (2) when the product management information of the product is deleted pursuant to the order of the operator, and (3) when the basic inventory quantity of the product on the storefront MD map is set to zero pursuant to the order of the operator. Thus, the regular store computer 50, accordance with the foregoing conditions (1), (2) and (3), determines whether the product has been excluded from the storefront MD map, and set the product as a non-operational product according to the determination result thereof. Here, as an example of the setup processing of the non-operational product, the case of (3) above where the setting of a non-operational product is made as a result of the basic inventory quantity being set to zero is explained in detail.

Fig. 19 is a flowchart showing the setup processing of the non-operational product by the regular store computer 50. The regular store computer 50 receives an

order from the person in charge of the regular store side for correcting the basic inventory quantity of the product (S1901). The person in charge of the regular store side, for example, may input the correction order of the basic inventory quantity from the basic inventory setup screen illustrated in Fig. 20. Specifically, the person in charge of the regular store side inputs "0" to both "face" and "back" of the desired product.

The regular store computer 50, upon receiving an input of the correction order of the basic inventory quantity, determines whether the values of face and back are respectively "0" (S1902), and, when the values of face and back are respectively "0", determines that the basic inventory quantity of the relevant product has been set to zero, and sets such product as a non-operational product. Specifically, it registers the foregoing contents in the regular store DB 602 illustrated in Fig. 21.

Fig. 21 is a diagram showing an example of the data structure of the regular store DB 602. The regular store DB 602 is used for storing the inventory information of the regular store, and is specifically constituted by containing the items of "store", "BR", "part number", "size", "color", "non-operational flag", "quantity" and so on. These records are uniquely specified with "store", "BR", "part number", "size" and "color." The "non-operational flag" is used for storing information regarding whether the product is a non-operational product. The regular store computer 50 sets "non-operational" to the non-operational flag of the product set as a non-operational product. Referring to Fig. 21, in relation to product A (part number = 10000, size = 07, color = 019) to which the non-operational has been set in Fig. 20,the non-operational flag of the record of product A (part number 10000, size = 07, color = 019) is displayed as "non-operational".

To continue the explanation upon referring back to Fig. 19, the regular store computer 50, after it completes the setting of the non-operational product,

recalculates the basic inventory quantity (S1904). Here, since 0 is input for both face and back, the basic inventory quantity will become "0", and a return order of the product will arise. Fig. 22 is a screen showing the condition where a return order for product A has arisen (22a of Fig. 22). As described above, a product (non-operational product) excluded from the product deployment in a regular store is provided with a non-operational flag showing that such product is a non-operational product on the regular store inventory DB 602.

(Store Management System in Discount Store)

Next, the store management in a discount store is explained. Since a store management system is employed at a discount store which basically has the same functions as with a regular store, functions different from a regular store are explained below.

Fig. 23 is a diagram showing an example of the constitution of the storefront MD map screen in a discount store. This screen corresponds to the storefront MD map screen in the regular store illustrated in Fig. 9. Upon compariing the storefront MD map of Fig. 23 and Fig. 9, at the discount store (Fig. 23), more types of products are being deployed in comparison to the regular store (Fig. 9).

Here, as explained in Fig. 8, the MD map is classified into a standard MD map, type MD map and storefront MD map. The storefront MD system 103, upon receiving a display order of the storefront MD map from the operator, determines the type of store according to the store flag or the like, and, when the store is a regular store, it uses the storefront MD map containing management information of the product to be deployed in such store. Meanwhile, when the store is a discount store, it reads the standard MD map from the MD map DB 402 and displays the screen thereof. This is because a discount store targets all products that became non-operational at a regular store. The person in charge of the discount store is able

to comprehend the status of the product that may be deployed in the storefront based on this storefront MD map screen.

Next, Fig. 24 is a diagram showing an example of the constitution of the basic inventory setup screen in a discount store. This screen corresponds to the basic inventory setup screen of a regular store illustrated in Fig. 10. According to this screen, even at a discount store, as with a regular store, the basic inventory quantity is displayed as face and back. The person in charge of the discount store is able to comprehend the status of the basic inventory of the product based on this basic inventory setup screen.

(Reserve Processing: Discount Store)

Next, the reserve processing with the discount store computer 50 is explained with reference to Fig. 17. As a precondition, the difference between the reserve processing in a regular store and the reserve processing in a discount store is explained briefly below.

Foremost, the subject of reserve (reservable inventory) of a regular store a discount store is different. In other words, in the case of a regular store, products are reserved targeting the operational products in a prescribed storage site, whereas in the case of a discount store, products are reserved targeting the non-operational products cancelled for sale in a regular store.

In other words, the reason for reserves becoming inadequate is different for a regular store and a discount store. Inadequate reserve of products means that a product cannot be reserved sufficiently since the inventory quantity of such product is less than the reserve quantity of the product.

The manufacture of an operational product to be the subject in a regular store is managed with the foregoing MD map. Thus, products are manufactured according to the MD map which determines the deployment of products in a regular

store, and, if such products have been distributed to the likes of a distribution center, inadequate reserve of inventory will not occur in the regular store. Nevertheless, there are cases where the products do not arrive at the distribution center as scheduled due to delays in the manufacture process or shipment process of the products, and, in such a case, inadequate reserve of products will occur.

Contrarily, in the case of non-operational products to become the subject in a discount store are not manufactured by design as with operational products, and varies by being determined based on the sale of the operational products in a regular store. For example, if the sales of the operational products are large in a regular store, the quantity of non-operational products will be small, and inadequate reserve of products will occur easily. Meanwhile, if the sales of the operational products are poor, the quantity of non-operational products will be great, and inadequate reserve of products will not occur easily.

As described above, since the reserve of products in a discount store depends on the inventory quantity of the non-operational product, products based on the reserve quantity cannot necessarily be reserved constantly. Further, even when inadequate reserve of products occurs, since such product is not being manufactured on the premise of being sold in a discount store, consequently, when the quantity of products arriving in the store becomes small, the lineup of products in a discount store will become scarce. Thus, with the reserve processing in a discount store, when inadequate reserve of products occurs, a means for selecting a substitute product is provided so as to cover the inadequate reserve with such substitute product. In other words, when inadequate reserve of products occurs, a list of products to become candidates (candidate product list) is presented, and a substitute product may be selected from such candidate product list.

Returning to Fig. 17, the reserve processing with the discount store computer

50 is explained. Incidentally, since the products to be sold in a discount store are non-operational products cancelled for sale in a regular store, a case is explained for reserving non-operational product A. Foremost, the discount store computer 50 calculates the basic inventory quantity regarding non-operational product A (S1701), and reads the store inventory quantity of non-operational product A from the store inventory DB 502 (S1702). It then calculates the reserve quantity of non-operational product A by subtracting the read store inventory quantity from the calculated basic inventory quantity (S1703). Here, let it be assumed that the basic inventory quantity of non-operational product A was calculated to be "4", the store inventory quantity to be "2", and the reserve quantity to be "4 – 2 = 2".

Next, the discount store computer 50 determines the type of store (S1704). Here, since the store is a discount store, "2" is set to the store flag. Since the store flag of the discount store computer 50 is set to "2", the store is judged to be a discount store, and the regular store inventory DB 602 is accessed thereby. And, the inventory quantity of product A to which "non-operational" is set is read out (S1707) (*sic.*).

Specifically, the discount store computer 50 refers to the regular store inventory DB 602 according to "BR", "part number", "size" and "color" of non-operational product A, and obtains the inventory quantity of non-operational product A (S1707). Here, a non-operational product is product in which the non-operational flag of the regular store inventory DB 602 is set to "non-operational". When the non-operational flag of product A is not set to "non-operational", since product A is not yet a non-operational product, reserve processing of product A is not conducted.

The discount store computer 50 then verifies the reserve quantity of non-operational product A calculated at S1703 and the inventory quantity of the

regular store inventory DB 602 so as to calculate the shipment quantity (S1708). Specifically, when the reserve quantity less than or equal to the inventory quantity of non-operational product A of the regular store inventory DB 602, such reserve quantity is adopted as is. Contrarily, when the reserve quantity is greater than the inventory quantity of non-operational product A of the regular store inventory DB 602, the inventory quantity of non-operational product A of the regular store inventory DB 601 becomes the shipment quantity.

Here, if the attribute information of non-operational product A is "BR = 153", "part number = 10000", "size = 07" and "color = 019", the inventory (quantity) of non-operational product A of the regular store inventory DB 602 is "1". Thus, in relation to the reserve quantity of "2", the inventory quantity of non-operational product A is "0", and 1 non-operational product A can be reserved thereby. As a result, the shipment quantity of non-operational product A is set to "1".

Next, the discount store computer 50 determines whether inadequate reserve of non-operational product A has occurred (S1709). For example, when the shipment quantity calculated at S1708 is less than the reserve quantity, the discount store computer 50 determines that inadequate reserve has occurred, and, when the calculated shipment quantity is equal to the reserve quantity, it determines that inadequate reserve has not occurred.

And, when the discount store computer 50 determines that inadequate reserve of non-operational product A has occurred, it executes processing for selecting a substitute product (S1710). The selection processing of a substitute product is constituted from searching a candidate product, displaying the search result and selecting the substitute product. Foremost, the discount store computer 50 searches a candidate product according to prescribed search conditions. Prescribed search conditions are, for instance, (1) that the product attribute (color, size, theme

and so on) is similar to non-operational product A, (2) that the non-operational flag has been set to "non-operational", (3) that inventory quantity capable of replenishing the inadequacy exists, among others. Incidentally, these prescribed search conditions may be set in advance, or may be appropriately set by the operator.

The discount store computer 50, in accordance with the prescribed search conditions, displays the search result as a candidate product list (not shown). In the candidate product list, for instance, information of non-operational product A (inadequate reserve quantity) and information regarding the candidate product (product attribute and inventory quantity) are displayed respectively. The operator may select a desired product from the candidate product list. Incidentally, let it be assumed that non-operational product B ("color = 20") having a different color than inadequate reserve (1) of non-operational product A has been selected.

When the operator selects a substitute product, the discount store computer 50 sets the shipment quantity of non-operational product B to "1". As a result, the inadequate reserve of non-operational product A is replenished by non-operational product B.

Incidentally, when the discount store computer 50 determines that inadequate reserve of non-operational product A has not occurred, it does not execute the processing for selecting a substitute product (S1709; NO).

The discount store computer 50 transmits the shipment/return order of the non-operational product to the distribution center 30 based on the set shipment quantity (S1711). Specifically, it transmits an order to ship to the discount store product A (1 product) and product B (1 product) which have been set as non-operational in the regular store. The distribution center 30, upon receiving this shipment/return order, collects the non-operational product from the regular store, and ships the collected product to the discount store.

Fig. 25 is a diagram showing an example of the constitution of the arrival/return quantity modification screen in the discount store. This screen corresponds to the arrival/return quantity modification screen illustrated in Fig. 11. As described above, products that become non-operational in the regular store are shipped to the discount store. Referring to Fig. 25, products that have been set as non-operational products in the regular store (c.f. Fig. 20) are displayed as products scheduled to be shipped to the discount store (Fig. 25 (25a)). Further, since the product having a part number of 10001 is still set as an operational product in the regular store, the scheduled quantity of arrival is "0" (Fig. 25 (25b)). According to the above, the person in charge of the discount store is able to instantaneously comprehend the arrival information of products that became non-operational in the regular store.

Incidentally, in the arrival/return quantity modification screen depicted in Fig. 25, although the arrival/return information of all products being deployed in the standard MD map is being displayed, when the quantity of products scheduled to arrive is small, there are cases when the operation will be troublesome since a product scheduled for arrive must be found among all of the products. Thus, the arrival/return quantity modification screen may also be constituted to only display the products which are to arrive or be returned. Specifically, among the products listed in the standard MD map, products in which the scheduled quantity of arrival is "1" or more in the regular store DB (*sic.*) inventory DB 602 may be extracted and displayed. According to the above, the arrival/return quantity modification screen will only display products that are scheduled to arrive, and the person in charge will be able to easily comprehend the scheduled arrival of products.

(Another Example of Reserve Processing: Discount Store)

In the foregoing reserve processing, a case was explained where a

non-operational product in a regular store was used to replenish a discount store when a non-operational setting is made in the regular store. Nevertheless, there are cases where a product returned from the regular store to the distribution center as an operational product becomes a non-operational product thereafter due to reasons such as the end of the scheduled sale period. Moreover, when there is excess inventory of non-operational products in a discount store, there are cases where the products that became non-operational in the regular store are not used to replenish the discount store, and returned to and stored in the distribution center. Thus, here, the product that became non-operational in the regular store and the non-operational product stored in the distribution center are reserved as subjects, and the shipment quantity of products to the discount store is decided thereby.

Fig. 26 is a flowchart showing another example of the reserve processing to be performed by the discount store computer. Incidentally, as a precondition, products stored in the distribution center and which have been set as non-operational are, as with the regular store DB 602, deemed to be registered as a non-operational product also in the distribution center inventory DB 601.

In Fig. 26, the processing flow from S2601 to S2606 is the same as the processing flow of S1701 to S1706 depicted in Fig. 17, and the explanation thereof is omitted. The discount store computer 50, upon reading the inventory quantity of non-operational product A which has been subject to non-operational setting of the regular store inventory DB 602, subsequently refers to the distribution center inventory DB 601, and reads the inventory quantity of non-operational product A which has been subject to non-operational setting (S2608).

And, the discount store computer 50 calculates the shipment quantity based on the reserve quantity of non-operational product A calculated at S2603, and the sum of the inventory quantity of non-operational product A of the regular store

inventory DB 602 and the inventory quantity of non-operational product A of the distribution center inventory DB 601. For example, when the reserve quantity of non-operational product A is "3", and the inventory quantity of non-operational product A of the regular store inventory DB 602 is "1" and the inventory quantity of non-operational product A of the distribution center inventory DB 601 is "1", the inventory quantity of non-operational product A will be "2", and, consequently, two non-operational products A is reserved, and the shipment quantity will be "2".

Incidentally, when the sum of the inventory quantity of the non-operational product is greater than the reserve quantity of non-operational product A, the non-operational product of the regular store and the non-operational product of the distribution center are used to replenish the discount store according to prescribed distribution conditions. For example, when the distribution condition is set to give preference to the non-operational product of the regular store, the shipment quantity of non-operational product A is determined such that the non-operational product of the regular store is preferentially used to replenish the discount store. Distribution conditions may be suitably set.

The discount store computer 50 transmits to the distribution center 30 the shipment/return order based on the decided shipment quantity. Specifically, it transmits an order to the effect of shpping to the discount store non-operational product A stored in the regular store and/or the distribution center. The distribution center 30, in accordance with the received shipment/return order, ships to the discount store non-operational product A stored in the regular store and/or the distribution center.

According to the above, since the non-operational product in the regular store and the non-operational product in the distribution center are automatically used to replenish the discount store, non-operational products can be sold efficiently

in the discount store.

Further, in the foregoing embodiments, although explained was a relationship of 1 regular store and 1 discount store, the present invention may also be employed in cases when there are a plurality of regular stores and discount stores, respectively. Here, inventory information regarding the plurality of regular stores is respectively stored in the regular store inventory DB 602. When shipment orders from a plurality of discount stores are made in relation to the non-operational product of a plurality of regular stores, the reserve of such non-operational product shall be decided in accordance with prescribed distribution conditions.

Moreover, in the foregoing embodiments, although a case was explained for conducting the non-operational setting of products in a regular store, the present invention is not limited thereto, and, for instance, non-operational setting can also be made by designating a product stored in the regular store or distribution center from the head office computer 40.

Further, in the foregoing embodiments, the distribution center inventory DB 601 is accessed in the case of a regular store, and the regular store inventory DB 602 is accessed in the case of a discount store. Nevertheless, there are cases when the inventory information of the operational product and non-operational product is stored in 1 database, and stored in a plurality of databases. Therefore, in the foregoing cases, the inventory quantity of an operational product may be extracted from a prescribed database regarding a regular store on the one hand, and the inventory quantity of a non-operational product may be extracted from a prescribed database regarding a discount store on the other hand, thereby verifying these with the reserve quantity.

Although the present invention was described with reference to preferrerd embodiments, the present invention is not limited to the foregoing embodiments. The

foregoing embodiments are mere illustrations for explaining the present invention, and the present invention may be worked in various modes so as long as it does not deviate from the gist thereof.

As described above, according to the present invention, store inventory corresponding to the sales record of the store can be realized since the basic inventory is fluctuated on a daily basis in accordance with the daily sales record of the store.

Further, the present application relates to the following Japanese patent applications. In designated countries acknowledging the incorporation of documents by reference, the subject matter described in the following applications will be incorporated herein by way of reference, and shall constitute a part of the present application.

Japanese Patent Application No. 2002-116762 (Filing Date: April 18, 2002)

Japanese Patent Application No. 2002-200359 (Filing Date: July 9, 2002)

CLAIMS

1. A store inventory management system, comprising: calculation means for calculating the basic inventory quantity of a product to be retained by a store based on the sales record of the product in said store according to a shipment cycle sorted in a prescribed time unit; and

transmission means for transmitting to a prescribed distribution center the shipment/return order of the product according to the difference between the calculated basic inventory quantity and the store inventory quantity of the product in said store.

2. A store inventory management system according to claim 1, wherein said calculation means calculates the basic inventory quantity based on the delivery lead time required until the product is delivered to the store, and said sales record.

3. A store inventory management system according to claim 2, wherein, when said shipment cycle is sorted in a day unit, said calculation means calculates the basic inventory quantity of the target day based on the daily sales record and delivery lead time sorted in a day unit.

4. A store inventory management system according to claim 3, wherein said calculation means specifies the daily sales record that coincides with a prescribed condition among the daily sales records, and calculates the basic inventory quantity of the target day based on the specified daily sales record and delivery lead time.

5. A store inventory management system according to claim 4, wherein said calculation means determines whether the target day corresponds to the first day of the period sorted in a prescribed day unit and, when it determines that the target day corresponds thereto, specifies the maximum daily sales record from the daily sales record within the sorted period prior to the sorted period under which the target day

falls, and calculates the basic inventory quantity of the target day based on the specified maximum daily sales record and delivery lead time.

6. A store inventory management system according to claim 4, wherein said calculation means determines whether the target day corresponds to the first day of the period sorted in a prescribed day unit and, when it determines that the target day does not corresponds thereto, specifies the maximum daily sales record from the daily sales record within the sorted period under which the target day falls, and calculates the basic inventory quantity of the target day based on the specified daily sales record and delivery lead time.

7. A store inventory management system according to claim 5 or claim 6, wherein said prescribed day unit is a 7-day unit.

8. A store inventory management system, comprising:

storage means for storing product management information containing product data of the product to be arranged in a store;

calculation means for calculating the basic inventory quantity of the product to be retained by the store based on the sales record of the product in said store;

transmission means for transmitting to a prescribed distribution center the shipment/return order of the product according to the difference between the calculated basic inventory quantity and the store inventory quantity of the product in said store; and

display means for associating the calculated basic inventory quantity with the product management information and performing the screen display thereof.

9. A store inventory management system according to claim 8, wherein said display means displays said basic inventory quantity by separating it into a first basic inventory quantity representing the inventory quantity of the product to be arranged at the storefront of the store, and a second basic inventory quantity representing the

inventory quantity of the product to be stored inside the store.

10. A store inventory management system according to claim 9, wherein said storage means stores the product quantity set up according to the arrangement space of the store as said product management information; and

said display means displays said product quantity as the first basic inventory quantity, and displays the value obtained by subtracting said product inventory quantity from said basic inventory quantity as the second basic inventory quantity.

11. A store inventory management system according to claim 8, further comprising reception means for receiving a designation to correct the basic inventory quantity; and

correction means for correcting the basic inventory quantity based on the received designation;

wherein said transmission means transmits to a prescribed distribution center the shipment/return order of the product according to the difference between the corrected basic inventory quantity and the store inventory quantity of the product in said store.

12. A store inventory management system according to claim 8, wherein said display means associates the shipment/return quantity of the product calculated based on said calculated basic inventory quantity and the store inventory quantity of the product in said store, with the product management information stored in said storage means, and performs the screen display thereof.

13. A store inventory management system according to claim 12, further comprising reception means for receiving input of information for controlling the transmission to the prescribed distribution center with the transmission means;

wherein, when information for conducting automatic transmission to said distribution center is input, said transmission means transmits the shipment/return

order of the product to the prescribed distribution center.

14. A store inventory management system, comprising: calculation means for calculating the basic inventory quantity of the product to be retained by a store based on the sales record of the product in said store according to a shipment cycle sorted in a prescribed time unit;

transmission means for transmitting to a prescribed distribution center the shipment/return order of the product according to the difference between the calculated basic inventory quantity and the store inventory quantity of the product in said store; and

inventory quantity storage means for storing inventory quantity of the product to be stored in a prescribed storage site;

wherein said transmission means calculates the reserve quantity according to the difference between said calculated basic inventory quantity and the store inventory quantity of the product in said store, and transmits to a prescribed distribution center the shipment/return order of said product based on the reserve quantity and the inventory quantity of said product stored in said inventory quantity storage means.

15. A store inventory management system according to claim 14, wherein said inventory quantity storage means stores the inventory quantity of the product cancelled for sale in a first store which sells the product at a regular price as the inventory quantity of a non-operational product; and

when said store corresponds to a second store which sells said product at a discounted price, said transmission means transmits to a prescribed distribution center the shipment/return order of said product based on said reserve quantity and the inventory quantity of the non-operational product stored in said inventory quantity storage means.

16. A store inventory management system according to claim 14 or claim 15, further comprising: product management information storage means for storing product management information containing product data of the product to be arranged in said store and the scheduled sale period of the product; and

setup means for determining whether the target product is a non-operational product cancelled for sale in said first store, and setting up information in said inventory quantity storage means to the effect that said target product is a non-operational product when it determines that the target product is a non-operational product;

wherein said setup means determines whether the scheduled sale period of said target product has ended according to the scheduled sale period of the product stored in said product management information storage means and, when it determines that the scheduled sale period has ended, sets up information in said inventory quantity storage means to the effect that said target product is a non-operational product.

17. A store inventory management method for managing the inventory of a store in a system to which a terminal device setup in said store and the shipment center are connected;

wherein said terminal device executes:

a calculation step for calculating the basic inventory quantity of the product to be retained by a store based on the sales record of the product in said store according to a shipment cycle sorted in a prescribed time unit; and

a transmission step for transmitting to a prescribed distribution center the shipment/return order of the product according to the difference between the calculated basic inventory quantity and the store inventory quantity of the product in said store.

18. A store inventory management method according to claim 17, wherein said terminal device calculates, in said calculation step, the basic inventory quantity based on the delivery lead time required until the product is delivered to the store, and said sales record.

19. A store inventory management method according to claim 17 or claim 18, wherein, when said shipment cycle is sorted in a day unit, said terminal device calculates, in said calculation step, the basic inventory quantity of the target day based on the daily sales record and delivery lead time sorted in a day unit.

20. A store inventory management method according to claim 19, wherein said terminal device, in said calculation step, specifies the daily sales record that coincides with a prescribed condition among the daily sales records, and calculates the basic inventory quantity of the target day based on the specified daily sales record and delivery lead time.

21. A store inventory management method according to claim 20, wherein said terminal device, in said calculation step, determines whether the target day corresponds to the first day of the period sorted in a prescribed day unit and, when it determines that the target day corresponds thereto, specifies the maximum daily sales record from the daily sales record within the sorted period prior to the sorted period under which the target day falls, and calculates the basic inventory quantity of the target day based on the specified maximum daily sales record and delivery lead time.

22. A store inventory management method according to claim 20, wherein said terminal device, in said calculation step, determines whether the target day corresponds to the first day of the period sorted in a prescribed day unit and, when it determines that the target day does not corresponds thereto, specifies the maximum daily sales record from the daily sales record within the sorted period under which

the target day falls, and calculates the basic inventory quantity of the target day based on the specified daily sales record and delivery lead time.

23. A store inventory management method according to claim 21 or claim 22, wherein said prescribed day unit is a 7-day unit.

24. A store inventory management method for managing the inventory of a store in a system to which a terminal device setup in said store and the shipment center are connected;

wherein said terminal device executes:

a storage step for storing product management information containing product data of the product to be arranged in said store;

a calculation step for calculating the basic inventory quantity of the product to be retained by the store based on the sales record of the product in said store;

a transmission step for transmitting to a prescribed distribution center the shipment/return order of the product according to the difference between the calculated basic inventory quantity and the store inventory quantity of the product in said store; and

a display step for associating the calculated basic inventory quantity with the product management information and performing the screen display thereof.

25. A store inventory management method according to claim 24, wherein said terminal device, in said display step, displays said basic inventory quantity by separating it into a first basic inventory quantity representing the inventory quantity of the product to be arranged at the storefront of the store, and a second basic inventory quantity representing the inventory quantity of the product to be stored inside the store.

26. A store inventory management method according to claim 25, wherein said terminal device, in said storage step, stores the product quantity set up according to

the arrangement space of the store as said product management information; and

in said display step, displays said product quantity as the first basic inventory quantity, and displays the value obtained by subtracting said product inventory quantity from said basic inventory quantity as the second basic inventory quantity.

27. A store inventory management method according to claim 24, wherewith said terminal device further executes a reception step for receiving a designation to correct the basic inventory quantity; and

a correction step for correcting the basic inventory quantity based on the received designation;

wherein said terminal device, in said transmission step, transmits to a prescribed distribution center the shipment/return order of the product according to the difference between the corrected basic inventory quantity and the store inventory quantity of the product in said store.

28. A store inventory management method according to claim 24, wherein said terminal device, in said display step, associates the shipment/return quantity of the product calculated based on said calculated basic inventory quantity and the store inventory quantity of the product in said store, with the product management information stored in said storage step, and performs the screen display thereof.

29. A store inventory management method according to claim 28, wherein said terminal device further executes a reception step for receiving input of information for controlling the transmission to the prescribed distribution center by the transmission step; and

wherein, when information for conducting automatic transmission to said distribution center is input, said terminal device, in said transmission step, transmits the shipment/return order of the product to the prescribed distribution center.

30. A store inventory management method for managing the inventory of a store

in a system comprising a terminal device setup in said store, the shipment center and an inventory database;

wherein said inventory database stores the inventory quantity of the product stored in a prescribed site, and

said terminal device executes:

a calculation step for calculating the basic inventory quantity of the product to be retained by the store based on the sales record of the product in said store according to a shipment cycle sorted in a prescribed time unit; and

a transmission step calculating the reserve quantity according to the difference between said calculated basic inventory quantity and the store inventory quantity of the product in said store, and transmitting to a prescribed distribution center the shipment/return order of said product based on the reserve quantity and the inventory quantity of said product stored in said inventory database.

31. A store inventory management method according to claim 30, wherein said inventory database stores the inventory quantity of the product cancelled for sale in a first store which sells the product at a regular price as the inventory quantity of a non-operational product; and

when said store corresponds to a second store which sells said product at a discounted price, said terminal device, in said transmission step, transmits to a prescribed distribution center the shipment/return order of said product based on said reserve quantity and the inventory quantity of a non-operational product stored in said inventory database.

32. A store inventory management method according to claim 30 or claim 31, wherein said terminal device further executes: a product management information storage step for storing product management information containing product data of the product to be arranged in said store and the scheduled sale period of the

product; and

a setup step for determining whether the scheduled sale period of the product has ended according to the stored scheduled sale period of the product, and setting up information in said inventory database to the effect that said product is a non-operational product cancelled for sale in said first store when it determines that the scheduled sale period has ended.

33. A computer-readable recording medium storing an information processing program for causing a computer to execute the store inventory management method according to any one of claims 17, 24 and 30.

34. An information processing program for causing a computer to execute the store inventory management method according to any one of claims 17, 24 and 30.

ABSTRACT

The present invention provides a store inventory management system having a calculation unit for calculating the basic inventory quantity of the product to be retained by a store based on the sales record of the product in the store according to a shipment cycle sorted in prescribed time units; and a transmission unit for transmitting to a prescribed distribution center the shipment/return order of the product according to the difference between the calculated basic inventory quantity and the store inventory quantity of the product in the store.