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E-business Management System Based on Coordinated Center for Dealer

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ABSTRACT

This management platform has been applied in e-business of the dealer. Based on coordinated center, and it is realized by intranet, extranet and Internet. The structure of the management platform has five parts: information center of management platform, customer relationship management system, purchasing management system, logistics management system and financial management system. With network security, data security, user security and backup etc., the system reliability and security are enhanced. Through Business to Business (B2B) and Business to Customers (B2C), it can help the dealer coordinate with the supplier and the retailer.

Keywords: dealer, e-business, management system, security, B2B, B2C

1. INTRODUCTION

Along with the development of market competition and network economy, traditional business has been transforming to e-business, and requiring higher and higher speed and accuracy of information much more than before. As a role in the marketplace, the dealer needs more and more information to coordinate with the supplier and the retailer. It has been an important problem for the dealer to improve management level and to fulfill the requirements of customers, the supplier and the retailer. Nowadays, the e-business of the supplier and the retailer has grown rapidly. And then, that makes all dealer's act depend on e-business, such as logistics, accounting and information etc. E-business is the development trend of management. By taking commercial activities as e-business system, the dealer can strengthen the competition capability in future. And now the cost of software and hardware is reduced, so the dealer need not pay large quantity of investment for e-business.

For the purpose of e-business, this system is built as a platform and coordinated center for the dealer. The system has the functions of B2B and B2C electronic business system, and can be remote controled through intranet, extranet and internet, connecting the supplier, the retailer and the dealer themselves. It is also realized by circle movement of logistics, information flow and fund in effect: logistics is by sale services and delivery, information flow is by Electronic Data Interchange (EDI) and Web Page Browsing, fund circulation is by electronic payment. Though this system, information feedback is in time. It can keep sensitive with the changes of external environment and relations from environment analysis, and can connect other enterprise, for example, the third party logistics. With this system, the dealer can be an excellent dealer in the era of e-business, which has competitive advantage, scales, coordination ability and management capability.

2. BUSINESS SYSTEM MODEL OF DEALER

The dealer has other titles, which to be used by people: middleman, broker or agent. Its responsibilities are keeping the cooperation relationship with the supplier and the retailer. It takes charge managing logistics, finance, inventory and customer satisfaction. It coordinates with the supplier, the retailer and customers, and exchanges information with the supplier and the retailer. The relation framework is illustrated in figure 1.

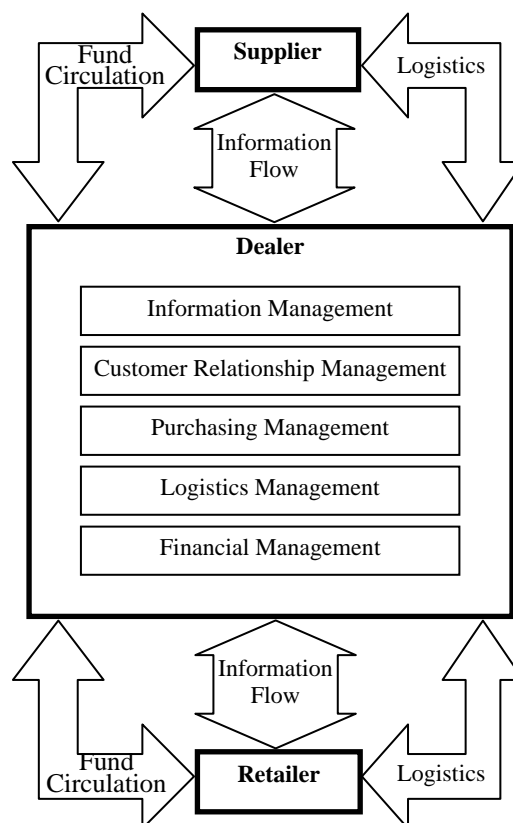


Figure 1. Business system model of dealer

3. STRUCTURE AND FUNCTION OF THE E-BUSINESS SYSTEM

Based on supply chain of B2B, e-business system is constitutive of the dealer, the supplier and the retailer, which exchanges information as a main platform. The system also has a function of B2C. Depending on large commodity database, the system can make directory of commodity, OnLine Analytical Processing (OLAP) order, give real time report of transaction and commodity inventory, publish commodity information and price. And it can support commodity searching in many aspects, online marketing, and have automatic analysis system with information from the supplier and the retailer, give service for customers' requirement and suggestion, query executive information of order, and have ability of safe payment .

The system has five parts, the main framework is illustrated in figure 2.

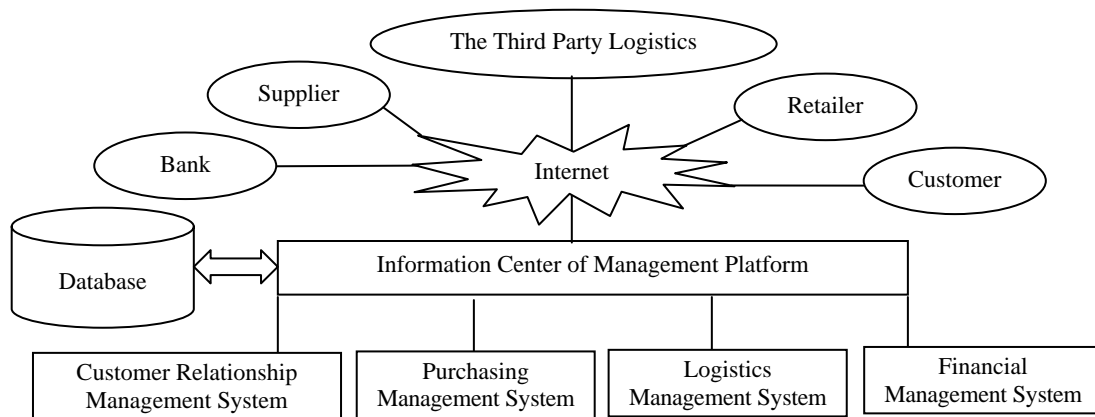


Figure 2. Framework of the e-business system

3.1 Information Center of Management Platform

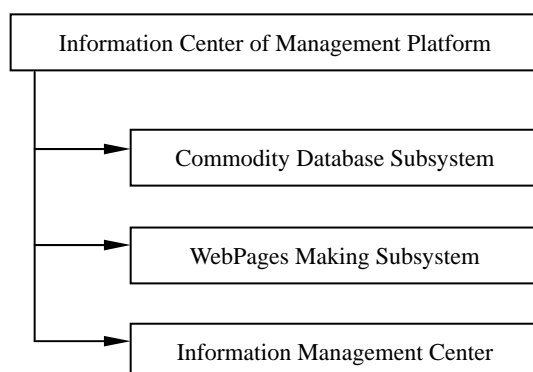


Figure 3. Structure of information center of management platform

Information center is one of the ways to integrate supply chain in Internet. With data storage and information

processing, admitting to download key data of supply and demand, the center can process and transfer information to all participants continuously. The whole network format a Hub-and-spoke system. And participant's information system in intranet is the auxiliary system of this center. For example: ERP and other enterprise's system. The concrete structure are as followed (illustrated in figure3).

3.1.1 Commodity database subsystem

Base on the different types of commodity and the supplier, the subsystem makes classification and encoding of commodity, and inputs the information into database, which includes the supplier information, commodity introduction, commodity specifications, pictures, FAQ and price etc.. This can be completed by personnel, and can change the information of commodity in any time.

3.1.2 WebPages making subsystem

This subsystem takes charge to make the WebPages of the dealer and puts into Internet. It has two subsystem.

Manual making subsystem: The personnel designs WebPages with software. It always applies in homepage and other irregular pages.

Automatic generating subsystem: This subsystem can automatically create specifications WebPages in fixed modes. Because the dealer need make introduction page for all commodity, and the dealer has much more types of commodity, it will be easy to create WebPages by the subsystem.

3.1.3 Information management center

This center manages whole intranet and extranet to assure the information flow unblocked. It manages operation and maintenance of network and Website, supports net connection and management software.

Information publishing, maintenance and management:

The publication of news and information are automatic. This center can manage the information ,and supply users to query.

Notice information transfer: This subsystem can send notice of market by message or mail. It can send news and e-mail from Mail Server, send the important business information, such as customers' order and information feedback, and can connect with mobile phone in time, in case to miss market opportunity.

3.2 Customer Relationship Management (CRM)

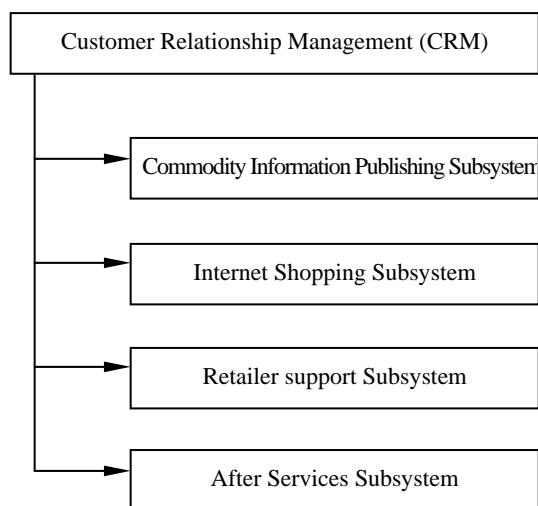


Figure 4. Structure of customer relationship management system

This system has two functions, sale management and customer support, and has two customer classification, one is customer and the other is retailer. It will realize Networked marketing and customer service, and provide customer analysis, consumer behavior tracking and One-to-One marketing strategy. The sale management can arrange work calendar and make up schedule, realize relation management, sale forecast, make suggestions, pricing management, distributive of market and cost report etc.. With this system, we can improve efficiency and reduce costs. The customer support can manage the customers' order, provide customer query, commodity directory and technical support. It also can provide online marketing guide to customer and retailer. It includes tracking order, customers concern, dispute solution and service management. There is a database to record problems and solution. It can make repairing, arrange scheduling, assist personnel to serve customers, solve problem quickly, and report deep market information. The structure of the system is illustrated in figure 4.

3.2.1 Commodity information publishing subsystem

Customers can search the information and inventory of

commodity by two ways, classifying directory and keywords.

They can search the commodity which they need with the type and manufacturer. Customers can fast inquire with keyword, which is brand name, manufacturer name or others, and can be more than one.

3.2.2 Internet shopping subsystem

The trade flow is a virtual supermarket. When customers are viewing commodity, they can put commodity into Internet shopping bag or replace to shelf. And they can check their bag, change commodity sums, settlement, choose payment mode and deliver mode in any time. After customers make an order, subsystem will send order message to customers and salespeople, and then update the content of order management system. Customers can query the execution of order.

3.2.3 Retailer support subsystem

Every retailer has its own account. They can query price, support decision, market mode, information of new products and payment. They can send repairing message to the dealer and check the cost. And based on the user name and commodity code which customers sent to the dealer before, the dealer will check the information and give the cost.

3.2.4 After services subsystem

The dealer can send information and answer questions to consumer, make commodity maintenance and repairing, or withdrawal.

3.3 Purchasing Management System.

This system has two subsystem: the supplier query subsystem, and order management subsystem, The structure is illustrated in figure 5.

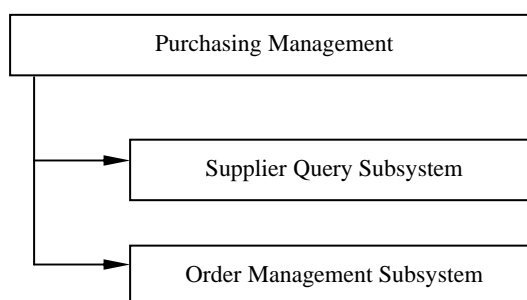


Figure 5. Structure of purchasing management system

3.3.1 Supplier query subsystem

Through Internet, the supplier can query status of sales, accounting and inventory. So they can provide

commodity in time, and set good relations with the dealer.

3.3.2 Order management subsystem

This subsystem can make classification encoding of the supplier, the retailer, storage. And it can order and arrange dispatching according to customers' order. Purchasing department can communicate with financial department with the subsystem, practise purchase strategy, control purchase cost and design purchase process rationalization. So it can reduce cost, shorten purchase cycle and improve quality of purchase.

3.4 Logistics Management System

This system is one of keys for the dealer to realize MIS (Management information System). It is the basis of logistics management, which includes operation subsystem and inventory management subsystem. Assisted by Purchase-Sales-Inventory Management System, the dealer can control content of inventory and market, reduce costs of purchasing and logistics, increase turnover rate, optimize resource reorganizing, analyze marketing environment and get sale fluctuating, so to improve itself competition capability. The structure is illustrated in figure 6.

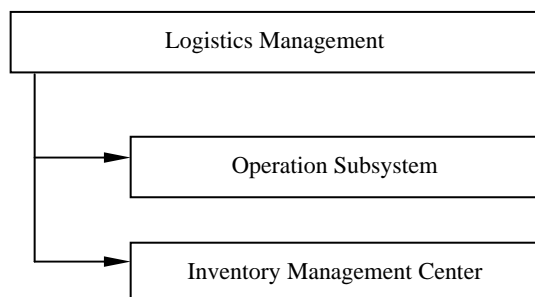


Figure 6. Structure of logistics management system

3.4.1 Operation subsystem

Logistics delivery is the main task of operation subsystem. After customers send order, the subsystem will automatically send order message to the dealer. According to the order and inventory, the subsystem can arrange logistics delivery and vehicle routing to satisfy different requirement of customers

3.4.2 Inventory management center

Inventory management includes management of commodity passed storage in and out, alarm for overstock and overtime, and purchase from the supplier. According to executive case of order, operation personnel can update the content of order to management system at any moment. The subsystem can support dynamic search with content of order management system and inventory, to help manager

understand the content of sales and inventory. Bass on inventory minimum limit, subsystem can automatic alarm, apply for purchase.

3.5 Financial Management

The system embodies stratagem management, business management and control so and so functions of accountant. It includes three parts as followed. The framework is illustrated in figure 7.

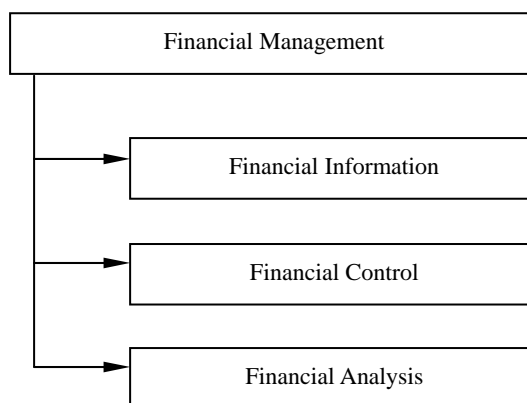


Figure 7. Framework of financial management system

3.5.1 Financial information

The enterprise need collecting and save the information, and should assure the real-time and relevant, reliable and comparable, in order to keep the operation run normally.

3.5.2 Financial control

Financial control can guarantee the validity of management, so as to improve the sale level, decrease expenses and realize the purpose of promoting the economy benefit of the enterprise. This system can manage accounting and realize reporting. It support electronic payment system, with which, customers can enter net-bank and use Secure Electronic Transaction Protocol or Security Socket Layer. After they input account number and password, they can query their accounting and payment. This system can realize user authentication, accounting and user management. The merit of this system are real-time performance, powerful security and RAS (Reliability Availability and Service).

3.5.3 Financial analysis

The dealer need analyze finance and market information by analytical method and evaluation index system, which serve as a channel for managers to master financial status and evaluate the profit condition, for the financial state analysis of the typical state owned enterprises.

4.METHOD DEFENDING SECURITY OF E-BUSINESS SYSTEM

As an e-business platform, this system needs good security to assure the reliability.

4.1 Network Security

With data encryption, firewall and access control, the subsystem keeps network security well, and with RAID, Error Detection and Correction (EDAC) and software fault tolerance etc., to assure system reliability.

4.2 Data Transmission Security

This subsystem can use instant messaging and electronic data interchange to change the electronic data from SSL, RSA and RES etc. to assure data security. And classified information is encrypted, before it is translated through Intranet.

4.3 User Security

All the management and operation process are realized by the browser. And the privileges grading control is applied in the system. The only administrator has the highest-grade permission, who can change the username and password, but can not add and apply other administrator. When administrator accesses, he is not like an ordinary user, he can add other user and authorize grade permission. For example, he can add a specialty user for financial manager, who can only query financial information. And he can add another specialty account for salesperson and give corresponding permission. The user security can be assured by user password, mixed cryptogram and data encryption etc.. Because the permission of administrator is in the highest-grade, it is mainly used in setting and managing whole virtual market. Considering the system security, it should be better not to use the user frequently.

4.4 Security, Data Backup, Log Recovery, Restore and Monitor

This subsystem can set the time interval of data backup, or backup immediately. And the manager can check log file and running state.

5.CONCLUSIONS

Facing e-business and enterprise online, this system set up a platform for the dealer as a coordinated center. Based on the conception of Open, Cooperative and Services, union management of resource, with

e-business platform as background, the system builds a main supply chain with the dealer, the supplier and the retailer, which has transaction function of B2B. As an e-business platform, it can communicate with Website from Internet, and provide online marketing to customers as B2C. To whole management system, software adopts standard interface to connect the mainstream financial software and enterprise website. And it can connect with other e-business website, such as CRM, ERP and MIS etc. So it is adaptable. This system has good security, perfect service, standard common interface, friendly user interface, mass user capacity, processing ability and complete user management. This system has large commodity database, and can make directory of commodity, publish list and picture of new commodity and hot commodity, OLAP order, give real time report of transaction and commodity inventory, publish price. And it supports commodity searching in many aspects, and has automatic analysis system with information from the supplier and the retailer, gives service to customers' requirement and suggestion, query executive situation of order, and has online payment, all of these are secure. Based on Intranet of Web, the system brings great flexibility. The dealer can coordinate and communicate with the supplier, the retailer and customers with this system, so as to be an indispensable role between the supplier and the retailer.

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