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The Role of Electronic Trade Platform in the Information Technology Era*

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I. Introduction

The rapid advancement of information communication technology since 2000 has changed the fundamental methods and practices of international trade. As a result, electronic trade has emerged as an alternative to cope with rising logistics cost and handle a demand for shortening lead time in terms of supply chain management.

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In Korea, 'Act on the Promotion of Office Automation for International Trade' was enacted, and e-Trade was promoted in December 1990. In addition, customs clearance was 100 percent automated. The web-based electronic trade infrastructure 'u-TradeHub' which had been developed by Ministry of Knowledge Economy since 2004 finally launched its service in 2008. Since then, trade automation services which had been provided individually have been available through a single window system on a realtime basis. Under this system, trade-related tasks(ex: marketing, foreign exchange, logistics, customs clearance, payment, etc.) can be handled all together in N-to-N relationships. In other words, Korea has been active in building electronic trade environment with a goal of improving and maximizing the efficiency of import and export-related tasks and enhancing corporate and national competitiveness through development of new values and customer satisfaction.

In the past, a trade firm should directly contact the related organizations(ex: bank, Korea Customs Service, shipping companies, airlines, Korea Financial Telecommunications & Clearings Institute, etc.) and prepare and submit related documents in person. Under the u-TradeHub system, however, all information is stored in a certified e-Document authority. Therefore, there is no need to submit the same documents repetitively. Moreover, cost reduction and work efficiency through electronic trade have been recognized as a national strategy to build high-efficiency, low-cost economic structure. It is likely that this kind of trend will continue and strengthen in the future.

However, we need to analyze and figure out how to manage the new system in a safe and efficient manner. In this sense, this study aims to investigate the use of electronic trade-based infrastructure and related technical, legal, systematic and operational aspects and come up with suggestions.

This paper consists of as follows: In chapter 2, the adaptation and outcome of u-TradeHub are reviewed. In chapter 3, u-TradeHub is analyzed. In chapter 4, an improvement plan to put the system into practice is suggested.

Regarding a research method, a literature review was conducted using domestic electronic trade-related papers and resources on the projects promoted by Ministry of Knowledge Economy as analysis tools.

II. Adaptation and Outcome of u-TradeHub

1. Adaptation Situation of u-TradeHub

Korea launched EDI services by establishing KTNET(Korea Trade Network) in June 1991 and has systematically developed electronic trade since then. Since the enactment of 'Comprehensive e-Trade Development Policy' in 2001, web-based electronic trade has been actively promoted. In 2003, core strategies for the e-Trade service development project were determined by organizing e-Trade Promotion Committee.

In December 2003, a framework for establishment of e-Trade platform¹⁾ through the trade process innovation project(BPR/ISP) was proposed, and legal and systematic improvement plans were suggested. Since December 2004, e-Document storage and certification services have been provided through the certified e-Document authority. The e-Trade platform is divided into service and trade document distribution sectors. In the service sector, services are provided through complex processing using the service platform and core facilities. On the other hand, the trade document distribution sector includes document relay system, certified e-Document authority and standard registry.²⁾ As a result, there liability and distribution efficiency of e-Documents were

1) e-Trade platform is divided into service and trade document distribution sectors. In the service sector, services are provided through complex processing using the service platform and core facilities. On the other hand, the trade document distribution sector includes document relay system, certified e-Document authority and standard registry.

2) A certified e-Document authority is a Trusted Third Party(TTP) which keeps e-Trade documents safely and certifies them and their transmission and reception.

secured. In addition, an e-L/C distribution management system has been established. This project aims to establish an e-L/C distribution management system in cooperation with financial institutions such as banks and Korea Financial Telecommunications & Clearings Institute for establishment of the ground for e-negotiation of electronic bill of exchange and establish an export L/C collection and management system using the certified e-Document authority.

In November 2005, e-L/C distribution services were developed, and a single window-based electronic trade portal system was established. As a result, integrated user management and personalization and additional functions have been enabled. In December 2006, KTNET was designated as the e-Trade business operator, and a certified e-Document authority was established for easy management and disposal/recovery of e-Documents and convenient distribution support and user functions. As a result, it has been possible to improve work process, create diverse new business models associated with e-Document management and prevent forgeries.

[Table 1] Progress of u-TradeHub Project

Period	Project	Description
Nov. 2003 - Jun. 2004	Trade Task Process Innovation	<ul style="list-style-type: none"> · Future national e-Trade model design and implementation planning · Trade-related work process innovation and execution planning
Dec. 2004 - Jul. 2005	u-TradeHub Project (Stage I)	<ul style="list-style-type: none"> · Development of e-Document authority and establishment of e-L/C distribution management system (stage I)
Dec. 2005 - Nov. 2006	u-TradeHub Project (Stage II)	<ul style="list-style-type: none"> · Establishment of single window for electronic trade (Establishment of e-Trade portals for trade firms, development of infrastructure for web services, establishment of work process system by trade procedure) · Improvement of e-Trade services (Establishment of e-L/C distribution management system, development of e-Document distribution system and services)

		<ul style="list-style-type: none"> · Expansion of core infrastructure for electronic trade (Advancement of e-Document authority, development of electronic trade-based facility operation plan)
Jul. 2007 – Feb. 2008	u-TradeHub Project (Stage III)	<ul style="list-style-type: none"> · Expansion of single window for electronic trade (Establishment of sub and integrated portals by user, development and distribution of user solutions for trade firms) · Development of online system infrastructure (e-Nego) for negotiation of bill of exchange (introduction of e-B/L, establishment of e-Nego system, development of e-L/C for foreign banks) · Establishment of integrated marketing information search system · Development of integrated information system to check the conditions for import and export

Sources: Quoted from the official report of Ministry of Knowledge Economy

In July 2007, as the stage III of the e-Trade service project, e-Trade platform which includes establishment of logistics portal services, advancement of e-L/C services and development of pilot e-Nego system was completed, and u-TradeHub was named. Since July 2008, trade-related services(ex: logistics, finance, customs clearance, etc.) have been provided. In particular, e-B/L is now transmitted and stored in the certified e-Document authority. For an additional purchase order in the future, the e-Nego system has been linked. In other words, a comprehensive e-Trade service assistance system has been developed. The e-Trade services have significantly enhanced the productivity and work efficiency of trade firms.

2. Construction Project Plan of u-TradeHub

In 2009, a five-year master plan for development of e-Trade infrastructure and global e-Trade system development plan were established. The details are as follows:

First, information linking between customs clearance and logistics network is

promoted. In order to make it possible for companies to get access to all work process and cargo tracing information through a one-time login, u-TradeHub is linked with the information networks of related organizations such as Korea Customs Service and Ministry of Land, Transport and Maritime Affairs. To eliminate a possibility of misuse of clearance information when the clearance network is linked with the national e-Trade system, in addition, publicity is secured among electronic trade-related business operators. Furthermore, work management and supervision plans are established. Second, a knowledge-based trade portal which has great access to information and convenience is developed. After integrating market information, knowledge and public information besides trade-related functions, customized trade analysis information is provided. In addition, the related information(ex: marketing information, export marketing support information, etc.) which is distributed among public organizations and associations is linked by stage and handled all together through the e-Trade portal. Third, global paperless trading is realized. A linking with major trading partners such as China and Japan and global communication networks(ex: SWIFT, PAA, etc.) is promoted. In addition, it is planned to export a Korean e-Trade system to developing countries with poor information and telecommunication infrastructure such as Uzbekistan, Libya and Mongolia through overseas road show and overseas e-Trade public relation booths. Fourth, a support system is improved to spread e-Trade. To make e-Trade services available abroad, subordinate statutes of commercial act are amended, and legal grounds for the digital issuance and distribution of bill of exchange are established. Furthermore, the use of commissions is specified with strengthened supervision to provide e-Trade services in a stable manner and protect business secret.

The Ministry of Knowledge Economy plans to distribute customized solutions in order to introduce the latest IT technologies such as USN, RFID and WiBro to e-Trade services and make it easier for both big and small-sized companies which have their own computer system to use the technologies for the development of e-Trade services.

[Table 2] Future Plan of u-TradeHub Development Project

Project	Goals
Linking e-Nego with Big Companies	<ul style="list-style-type: none"> · Handling of Nego by linking u-TradeHub portal with the ERP of big companies · Foreign banks get access to u-TradeHub portal and proceed 'Nego.'
Establishment of e-Nego Portal for Small & Mid-sized Enterprises	<ul style="list-style-type: none"> · Establishment of e-Nego process for users (small & mid-sized enterprises) · Improvement of user convenience in u-TradeHub portal
e-B/L System in English	<ul style="list-style-type: none"> · Separation of transmission/reception modules for e-B/L and establishment of the portal site

Sources: Quoted from the official report of Korea International Trade Association

III. Operation and Major Contents of u-TradeHub

1. Overview and Use of u-TradeHub Services

1) Overview of u-TradeHub Services

The u-TradeHub provides infrastructure for collaboration commerce between public organizations and private institutions and companies. In other words, because trade-related organizations such as banks, insurance companies and the Korea Commerce of Commerce and Industry are linked to each other through the certified e-Document authority of u-TradeHub, trade firms can keep their e-Trade documents in the e-Document authority and use them when necessary. Therefore, printed documents have disappeared.

The strengths of u-TradeHub services are as follows: First, u-TradeHub has a trade process system which can handle all trade-related works in a seamless manner. Second, work efficiency is improved with 'To-Do Task' which reveals the progress of all trade procedures from drawing up a contract to payment and duties to be fulfilled through 'My Task' function. Third, work

hours shorten, and cost is significantly reduced. In particular, because the digital information is reusable anytime, it is unnecessary to enter the same data. Fourth, convenient document distribution is enabled through improvement of interoperability of e-Documents by applying XML standards. Fifth, it provides personalized work domain such as menu setting, work information and monitoring by providing customized services through 'My Trade'. Sixth, unauthorized persons are prohibited to get access to the data. As a result, trade safety is secured, and financial accidents such as forgery are prevented.

2) Constitutive Contents of u-TradeHub Services

The u-TradeHub provides various services including u-Trade service, u-Logis service, u-Bankers service, u-Customs service, u-Trade search service and u-Global service. In addition, it provides public and private sector-linked integrated trade data through the integrated marketing information search system which has been established to supply market information as well as trade services in a one-stop manner. The system also makes it possible to get access to the trade information provided by KITA, KOTRA, EC21 and ECPlaza. The linked information by information type can be searched as well.

(1) u-Trade Service

It offers a single workplace to make it possible to handle all trade-related processes including marketing, commercial trading, foreign exchange, logistics and payment in a fast, convenient and seamless manner. In addition, you can submit the related documents(ex: S/O, B/L, C/O, insurance on cargo, bill of exchange, etc.) through a trade portal without visiting an organization in person using this service. Because complicated trade tasks can be handled anytime and anywhere without visiting a bank or related organization, time and cost can be significantly saved. The services provided through the trade portal include the issuance and notification of L/C, purchase of B/L and B/E, check on conditions and handling of C/O, local L/C and P/O.

(2) u-Logis Service

It is integrated import and export work handling service which links logistics work processes automatically and makes them available without time and space constraints in order to enhance the functions and work efficiency. The standard form-based web service and MFCS-based realtime cargo information service are provided. Major services include port information and MFCS, declaration of bonded transportation, declaration of export/import, issuance of D/O and payment of import and export logistics cost.

(3) u-Bankers Service

It is a portal to support an e-L/C distribution and e-Nego system. It provides core u-TradeHub services by supporting the e-Nego system and enhances work efficiency by minimizing the necessities of L/C data input. Services include e-L/C distribution, e-Nego support and settlement of import and export bills.

(4) u-Customs Service

It is electronic export and import customs-related service. As the core e-Trade system, it handles VAN-based conventional users, customs duties using the internet service and establishes the ground for trade, customs clearance and logistics-linking platform. It provides integrated services which are linked with conventional trade, customs clearance and logistics systems and makes customs information shared among users by supporting a customs broker's duties on the internet and strengthening the linking with the existing customs broker system. Services include the search and print of declared information. Specifically, this system makes it possible to search and print out import/export clearance, exchange related works, export declaration, import declaration and application for refund.

(5) u-Trade Search Service

This marketing search portal enables a user to search information through

the linkage with the leading domestic trade-related websites. It makes the access to u-TradeHub and independent URL possible and provides integrated private-public sector linked trade data. In addition, it promotes information linkage with the vendors which have professional knowledge on marketing information and provides integrated and detailed trade information search functions by linked organization.

(6) u-Global Service

This global portal service includes e-Document exchange with foreign partners, electronic O/C(certificate of origin) service and automatic import cargo manifest declaration service. It aims to realize true electronic trade by enabling information exchange services with foreign partners. Services include e-Document transfer with foreign partners and between head office and branch offices. The information which would be manually handled by fax, e-mail or phone in the past can now be used through the internal system. In addition, the global portal provides services in cooperation with global e-Trade partners such as Pan Asian e-Commerce Alliance and Asia Europe Alliance for Paperless Trading.

2. Evolution Stage and Role of u-TradeHub

1) Evolution Stage of u-TradeHub

According to the classification method discussed at the United Nations Economic Commission for Europe (UNECE) conference and the United Nations Economic and Social Commission for Asia and the Pacific(ESCAP) meeting, the evolution stage of e-Trade can be summarized as follows based on geographical area and characteristics.³⁾ For reference, Korea's u-TradeHub

3) Sin, C.Y.(2009), "Single Window Development and Implementation, Experience of Singapore", Presentation at the UNESCAP-UNECE Capacity Building Workshop on Trade Facilitation Implementation for Asia and Pacific Region, 17-19 March, Kuala

has been evolving from Single Window Portals to the Regional and Multi-Nation Portals.

First, the Pre-Single Window Trade Portals stage refers to customs automation focusing on the uniqueness of customs duties. In this stage, customs clearance parts are only electronically handled through the partnership with government or private sector within the territory of a single nation. In this case, papers are used in most trade procedures except for customs clearance. In this stage, therefore, cost reduction through e-Trade would not be effective.

Second, the National Single Window Portals stage can be classified from the two perspectives. From the first perspective, an e-Trade network developer is divided into public organizations and e-Trade communication network relay operators. In a public and government organization-led model, trade-related information can be accessed through Korea Customs Service and statistics, public health, quarantine and import/export permit-related organizations are networked. From the second perspective, trade can be facilitated and expanded from G2B to B2B. In particular, the Sub-stage Single Window in which the subjects are expanded from G2B to B2B provides the following value-added services: e-Payment, e-Logistics, e-Marketing, security and message authentication, L/C advice, foreign product advertisement and market research, e-Learning.⁴⁾

Third, the Regional and Multi-nation Portals stage links and integrates a single window platform with the e-Trade system by region and nation. It appears that local single window such as ASEAN single window and EU single window would come true near the future.

Fourth, it is the Global Portal stage. Right now, a global e-Trade system which exceeds geographical limitations with a lot of participating organizations

Lumpur, Malaysia.

4) Kim, Joong-Gyen(2005), "A Study on the Single Window in Electronic Trade", The Journal of Korea Research Society for Customs, Vol. 6, No. 1, pp. 83-102.

is not available yet. Even though Bolero insisted a global e-Trade system geographically, it has not been effective due to high service charge and a lack of flexibility.

2) Roles of u-TradeHub

The u-TradeHub helps companies and industries improve their competence by completing an ongoing e-Business strategy. For Korean enterprises which are highly dependent on international trade, it is hard to generate values through an e-Business strategy without being linked or integrated with u-TradeHub. In fact, the informatization and e-Business of the entire processes would not be possible unless the information technology and systems, e-Business systems and strategies are effectively linked with e-Trade infrastructure. The u-TradeHub will be effective in achieving real e-Business by promoting e-Businesses(ex: trade, manufacture, banking, insurance, transportation, loading, warehousing, etc.) and linking and integrating them based on e-Trade infrastructure. In addition, electronic trade is a core field to achieve the national goal of 'Enhancement of International Trade Competence' by linking and integrating e-Government(ex: G2B, G4C, etc.) with the businesses and industries. In this sense, u-TradeHub offers a chance to increase export and strengthen international trade competence based on e-Business and e-Government strategies and repair the current high-cost structure of Korean trade by bringing a structural innovation to businesses and related organizations.

Furthermore, the exchange of e-Documents and linkage with services are the most important factors in realizing global e-Trade services. In other words, e-Trade services will not be implemented unless the exchange of e-Documents and linkage with services are done through either international cooperation or export of e-Trade system. Because linking services among national e-Trade systems are necessary to provide global e-Trade services in the future, it is necessary to work hard to promote international cooperation to strengthen networking with the countries which already have an e-Trade

system and export the system to the countries that are in need of the e-Trade system. Moreover, it is important to concentrate on spreading linking solutions to promote the linkage with e-Trade services.

For this, Korean government has focused on exporting the u-TradeHub system, and the details are as follows: First, it is difficult to make an aggressive investment in electronic trade due to financial difficulties, an e-Trade system will be exported after getting support from the related organizations such as Korea International Cooperation Agency(KOICA). Second, if electronic trade-related technology is poor even though it has an intention to make an investment in electronic trade with sufficient financial reserve, support on follow-up management and localization are promoted based on a long-term partnership. Third, in case of a country which owns electronic trade-related technologies with sufficient budget, an export strategy through a strategic alliance with electronic trade-related enterprises is promoted.

IV. Reformations of u-TradeHub

1. Technical and Legal Reformations of u-TradeHub

Under a current e-Trade system, it is difficult to cope with problems caused by increase in the number of users and expansion of services in a stable and flexible manner. In addition, the corporate support system to increase the number of users is not enough yet. To solve these problems, it is necessary to come up with a customized public relation strategy through the Ministry of Knowledge Economy and a plan to provide differentiated linking services. At present, u-TradeHub provides portal-centered simple services. Therefore, it is time to strengthen related functions by linking e-Trade solutions with businesses' ERP systems and diversify the functions to handle all processes(ex: logistics, insurance, customs clearance, payment, etc.) at a time. In addition, it

is necessary to secure technical compatibility by linking u-TradeHub with the information systems of domestic firms. In particular, u-TradeHub should provide various functions with which electronic trade can be enabled to small and mid-sized enterprises and help them develop necessary functions.

Furthermore, it is required to establish an integrated international e-Trade certification system which includes payment system, transportation and insurance. In particular, it is necessary to set specific guidelines to standardize different certification duties and organizations in a trade sector in which the distribution of e-Documents among countries is urgent. For this, a negotiation for introduction of a qualification system should be done in advance.⁵⁾

Regarding encryption and certification technology, the world has taken a neutral stance from the technical aspect. This kind neutral attitude has an advantage of easy acceptance of technology over the development of digital signature. On the contrary, it takes a lot of time and money to keep developing new technology. In addition, there is a possibility to use the new technology without verification every time it is developed. In addition, because each country uses its own technology, there will be a problem in technical compatibility, which may in turn obstruct the development of electronic trade.⁶⁾ However, if a particular technology is chosen as international standard, it may slow down the development of new technology and cause a monopoly.⁷⁾

Therefore, it is necessary to establish a trust model through continued negotiations from the long-term perspective to make these technical problems be handled with an effective legal means.

If a problem occurs while the related works are being handled in a fast

5) Lee, Bong-Soo(2005), "A Study on the Global Electronic Certification in the e-Trade Payment System", Korea Trade Review, Vol. 30, No. 5, pp.183-199.

6) Lee, Sang-Ok and Jeong-Heui Lee(2008), "A Study on Information Management and Computer Security for e-Trade Payment", The Journal of Korea Research Society for Customs, Vol. 9, No. 4, pp.317-335.

7) Lee, Bong-Soo(2005), "A Study on the e-Trade Promotion throughout Electronic Payment System", The Journal of Korea Research Society for Customs, Vol. 6, No. 3, pp.327-342.

manner, it takes some time to find the causes and get a legal solution. And, it could be impossible to compensate the damages. The establishment of legal systems has been essential. In Korea, the legal grounds for electronic trade-related documents are very poor. In fact, this poor system may slow down the distribution of e-Documents due to a lack of reliability among users. In particular, among the three functions of printed documents (information delivery, proof and symbolization), EDI method may cause a legal problem in proof and symbolization. In this sense, international laws and regulations should be quickly amended. However, it is very difficult to make this kind of amendment take place in a short period of time. In addition, it is inappropriate to solve an individual problem through mutual assent.

The 'Enforcement Decree of the Electronic Trade Facilitation' should be established by a separate organization formed by both civil group and government instead of by a related organization. Then, the policies should be coordinated by related organizations. Meanwhile, to distribute e-Documents through digital signature and certification, both stability and reliability should be guaranteed. For this, the scope of technology distribution and follow-up management should be expanded, or the related laws should be quoted.⁸⁾

In international trade, even though B/L is issued by a shipping company in an exporting country, it is more frequently used in an importing nation. Because the document should be linked with major trade partners in the importing country, it is necessary to revise the subordinate statutes of the commercial act, which may obstruct the overseas use of e-B/L.

According to 'the Act on the Execution of e-B/L' of the commercial act, certified e-Signature is only permitted when distributing e-B/L in Korea. Therefore, overseas users who are not able to get the certified e-Signature

8) Shim, Chong-Seok and Min-Kyo Seo(2009), "A Legal Study on the Complimentary Issues of Electronic Trade Promotion Act in Korea", The Journal of Korea Research Society for Customs, Vol. 10, No. 3, pp.201-219.

cannot use e-B/L. Therefore, it is necessary to amend the subordinate statutes to allow the signature agreed by both contractual parties and e-B/L registration agency.

2. Institutional Reformations of u-TradeHub

One of the major problems in terms of the structure of u-TradeHub is 'standard.' Korean government presents guidelines on information exchange among companies, government and related organizations through the KEDIFACT of UN/EDIFACT. In XML, however, an international standard is not available yet. Therefore, companies and related organizations have found it difficult to develop and introduce technologies. If the development of non-compatible standards continues, it would be difficult to share information among different systems. In turn, it will be hard to save time and money and secure many users. For a seamless handling throughout the entire trade process, standardization of document forms and digital documentation should be achieved in advance to make them distributed through e-Trade platform. In addition, history management associated with document distribution as well as the safe and efficient distribution of documents is required by establishing the ground to share frequently used documents with other organizations through the certified e-Document authority.⁹⁾

Through the amendment of the Framework Act on Electronic Commerce in 2007, the legal and systematic grounds for promotion of the certified e-Document authority were established. However, additional studies should be conducted on several parts which may cause a collision between the Framework Act on Electronic Commerce and other statutes. It is also inevitable to amend the laws due to the establishment of a new integrated

9) Shim, Sang-Ryul and Yoon-Say Jeong(2007), "A Study on the Status and Strategies of Standardization for the Era of u-Trade", Korea Trade Review, Vol. 32, No. 5, pp.69-98.

e-Document support system. In addition, there have been some problems in practice due to a partial technical and policy gap between work process and the certified e-Document authority.¹⁰⁾

Regarding influential factors on the realization of the grounds for electronic trade, a positive correlation is observed between technical features and implementation levels. At present, ebXML is the standard language which represents the information used in electronic trade. As RFID tag becomes common for acquisition and exchange of information regarding the transportation of products, the enactment and distribution of international standards have been accelerated. Under these circumstances, it is necessary to globalize domestic technologies and standards by making out and announcing a proposal when electronic trade-related international standards are enacted or amended.¹¹⁾

From the user's perspective, even though there will be slight difference by circumstance, a lot of cost and efforts to build e-Trade infrastructure are the major reason why small and mid-sized businesses are hesitating in launching electronic trade. Except for few companies, in addition, the infrastructure for electronic trade is mostly led by government. Therefore, a lot of money should be invested every year. In terms of organizational maintenance, implementation method and specific technologies are not standardized yet for linkage or contents integration by e-Marketplace and development of value-added services.

For this, e-Trade relay organizations need to integrate global e-Trade relay services, discover partners for domestic support(logistics, payment) and play a key role in export marketing. In other words, it is necessary to provide support on e-Trade by encouraging the development of standard technology

10) Choi, Hyuk-Jun and Tae-Hwan Kim(2008), "A Study on the Current Status and Activation of Certified e-Document Authority(CeDA)", *The e-Business Studies*, Vol. 9, No. 1, pp.181-200.

11) Lee, Bong-Soo(2003), "A Study on the Issues for Developing e-Trade Service Provider", *The International Commerce and Law Review*, Vol. 20, pp.423-440.

based on unified and systematic factors and implementing high-quality services for international trade. In other words, instead of simple education on how to use an e-Trade system, user-oriented educational contents should be developed. In other words, it is necessary to distribute both solution and e-Learning systems to acquire professional knowledge on systematic electronic trade. In addition, current e-Trade relay systems are poor, and there is a lack of professionals who are capable of handling e-Trade affairs efficiently. The policy support on the development of human resources is still poor as well.¹²⁾

To overcome these obstacles, it is required to secure talented employees through the e-Trade professional human resources development council and come up with a policy which supports the development of cooperative infrastructure through an export exchange program. Furthermore, it would be possible to secure vertical manpower demand on particular industries and products after securing horizontal demand on international trade.

3. Operational Reformations of u-TradeHub

In a single window system, all processes from marketing to customs clearance, logistics and payment should be handled seamlessly. In Korea, Ministry of Knowledge Economy is now in charge of marketing, trade-related tasks and communication, digital certification-related duties while Ministry of Land, Transport and Maritime Affairs handles land, air and marine logistics. In addition, Ministry of Strategy and Finance copes with the settlement of foreign exchange while Korea Customs Service is in charge of customs clearance. Systematically, therefore, a discontinuation of work process is inevitable.¹³⁾

12) Ahn, Byung-Soo and Min-Chang Han(2006), "A Study on the Requisites of Single Window for International e-Trade in Korea", *The e-Business Studies*, Vol. 7, No. 5, pp. 309-329.

13) Lim, Cheon-Hyeok and Nam-Kyu Park(2009), "A Study on the Application and Service Factors Confidence of e-Trade", *The International Commerce and Law*

Considering these situations, e-Trade process should be operated in an integrated manner through a systematic linkage with companies and related organizations instead of being governed by the domestic law of a certain nation or controlled by a particular organization. In addition, in order for these processes to be united as a complete single network, the e-Trade operating system should be standardized in advance, which means that e-Trade process may not be achieved unless the industry and technology infrastructure is standardized first.¹⁴⁾

In e-Trade platform, values cannot be created without complements such as contents. In other words, as more people use the platform, more complements are developed, generating values. Therefore, Korean government needs to build platform leadership for partners by cultivating strategic thinking to dominate standards through u-TradeHub in a global market.

At present, Korea's e-Trade system can be divided to UNI-PASS(Korea Customs Service) and u-TradeHub(Ministry of Knowledge Economy). The divided e-Trade system may slow down system development and weaken trade competitiveness. Therefore, it is necessary to increase the number of users by avoiding current competition structure and specializing in each system's core factors through the linkage.¹⁵⁾

Therefore, KTNET which operates e-Trade platform should concentrate on users using e-Trade platform through system integration into u-TradeHub. At present, e-Trade portals which include foreign exchange, logistics and customs clearance are redundantly used in both private and public sectors. Therefore, it

Review, Vol. 43, pp.397-422.

14) Lee, Yong-Keun and Jae-Woo Jung(2005), "An Practical Approach to the Implementation of Electronic Trade in International Commerce", Korea Trade Review, Vol. 30, No. 6, pp.125-146.

15) Kim, Tae-In and Su-Young Kwak(2008), "A Study on Electronic Clearance System (UNI-PASS) in Korea", The Journal of Korea Research Society for Customs, Vol. 9, No. 4, pp. 69-87.

is urgent to eliminate redundant input in e-Trade infrastructure.

For advancement of the work environment of trade firms, it is necessary to link e-Trade standard user solution with u-TradeHub. Electronic application should be enabled through linkage with u-TradeHub after implementing e-B/L and e-Nego services in user solutions which are available in enterprises which own their own ERP system. In addition, the subjects of the e-Nego demonstration project are expanded to all financial institutions including foreign banks by further strengthening the linkage between u-TradeHub system and trade-related organizations. Moreover, the inter-organizational linkage network should be further expanded to spread e-B/L services including shipping companies and forwarders. Therefore, once the development of a user-centered linkage system is completed, electronic trade would be accelerated in Korea, and it would develop into the global e-Trade service system.¹⁶⁾

As the importance of logistics is emphasized, both domestic and foreign firms have promoted innovation in logistics techniques through value-chain services for enhancement of competitiveness as well as support on production and sales activities. Vertical integration and Global Supply Chain Management(GSCM) could be achieved using the same e-Trade platform regardless of logistics companies. At the same time, Korea Customs Service needs to integrate maritime and air logistics systems through the promotion of system linkage in logistics. As a result, customs clearance and logistics can be integrated under a single system, and competitiveness can be enhanced.

For this, it is necessary to improve an overseas marketing information search system, user-centered, one-stop checking system and import-related document distribution system. Moreover, it is required for Korean government to establish a mutually reliable global system by actively participating in international e-Trade cooperation and standardization meetings.

16) Lee, Sang-Ok and Cheon-Hyeok Lim(2011), "A Study on Activation of uTradeHub System", The International Commerce and Law Review, Vol. 51, pp.441-464.

V. Conclusion

To enhance global competitiveness, continuous innovation and investment along with advancement of government policies and systems are essential. In the 21st century, electronization or digitalization is a key element for global competitiveness. In international trade, electronic trade has become an essential factor for improvement of competitiveness.

The e-Trade services significantly enhance both productivity and efficiency. Because they make paperless trading possible, document forgery can be fundamentally prevented with remarkable cost reduction. If global services are implemented, the effect of electronic trade could be maximized.

A series of e-Trade infrastructure development projects so far have been promoted in consideration of the conditions of entire industries. The infrastructure has been developed to promote multiple trades in consideration of both domestic industries and economic competence. In consideration of these circumstances, Korea has continuously promoted e-Trade infrastructure development projects.

In this sense, this study has analyzed u-TradeHub and proposed the most urgent plans from the technical, legal and operational aspects. The details are as follows:

First, from the technical and legal aspects, to make up for a lack of support systems for spread of users, it is required to promote customized advertising strategies through Ministry of Knowledge Economy and establish a global certification system. In addition, it is necessary to improve laws and systems to make related documents linked globally for promotion of global electronic trade. In particular, Bill of Lading(B/L) and Bill of Exchange are more commonly used in an importing country even though they are issued by a shipping company in an exporting nation. Therefore, they should be properly complemented.

Second, document standardization and digitalization should be achieved in advance to make the documents distributed through the e-Trade platform in

a seamless manner. Furthermore, an ongoing global network development project should be promoted through the e-Trade platform to achieve standardization.

For integration of e-Trade infrastructure development projects, specific improvements are required as well. For this, the effectiveness of e-Trade relay organizations which implement the related services should be guaranteed. In addition, user-oriented educational contents should be developed instead of simple education on how to use an e-Trade system. In addition, it is required to secure talents through the e-Trade professional human resources development council and develop the policy basis to build the infrastructure for mutual cooperation through an academia-industry exchange program.

Third, from the operational aspect, it is important to maintain an integrated and systematic relationship with related organizations. Because vertical integration among logistics service providers and GSCM are enabled through the e-Trade platform, it is necessary to standardize global network-based linkage and operating systems. In addition, entering into the Single Window Portals stage, Korea needs to expand e-Document exchange in a public sector through a mutual e-Document acceptance agreement.

The plan mentioned in this study makes various suggestions which could be utilized up to the maximum level by e-Trade platform users. However, they are somewhat limited in applications. Therefore, it is necessary to perform a questionnaire survey on trade firms, users of the u-TradeHub system, on a case-based, empirical approach.

REFERENCES

- Ahn, Byung-Soo and Min-Chang Han(2006), "A Study on the Requisites of Single Window for International e-Trade in Korea", *The e-Business Studies*, Vol. 7, No. 5.
- Choi, Hyuk-Jun and Tae-Hwan Kim(2008), "A Study on the Current Status and Activation of Certified e-Document Authority(CeDA)", *The e-Business Studies*, Vol. 9, No. 1.
- Jeong, Yoon-Say(2009), "A Study on uTradeHub Service and Tasks to Facilitate Korea's Paperless Trade", *The e-Business Studies*, Vol. 10, No. 4.
- Jung, Jae-Woo(2008), "A Study on the Comparative Analysis of the e-Trade in Korea, United States and Japan", *Korea Trade Review*, Vol. 33, No. 4.
- Kim, Joong-Gyen(2005), "A Study on the Single Window in Electronic Trade", *The Journal of Korea Research Society for Customs*, Vol. 6, No. 1.
- Kim, Tae-In and Su-Young Kwak(2008), "A Study on Electronic Clearance System(UNI-PASS) in Korea", *The Journal of Korea Research Society for Customs*, Vol. 9, No. 4.
- Lee, Bong-Soo(2003), "A Study on the Issues for Developing e-Trade Service Provider", *The International Commerce and Law Review*, Vol. 20.
- Lee, Bong-Soo(2005), "A Study on the Global Electronic Certification in the e-Trade Payment System", *Korea Trade Review*, Vol. 30, No. 5.
- Lee, Bong-Soo(2005), "A Study on the e-Trade Promotion throughout Electronic Payment System", *The Journal of Korea Research Society for Customs*, Vol. 6, No. 3.
- Lee, Sang-Jin and Hyoung-Cheol Kim(2008), "A Theoretical Study for the Development of Evaluation Index of e-Trade Platform Performance", *The Journal of Korea Research Society for Customs*, Vol. 9, No. 4.
- Lee, Sang-Ok and Jeong-Heui Lee(2008), "A Study on Information

- Management and Computer Security for e-Trade Payment", The Journal of Korea Research Society for Customs, Vol. 9, No. 4.
- Lee, Sang-Ok and Cheon-Hyeok Lim(2011), "A Study on Activation of uTradeHub System", The International Commerce and Law Review, Vol. 51.
- Lee, Yong-Keun and Jae-Woo Jung(2005), "An Practical Approach to the Implementation of Electronic Trade in International Commerce", Korea Trade Review, Vol. 30, No. 6.
- Lim, Cheon-Hyeok and Nam-Kyu Park(2009), "A Study on the Application and Service Factors Confidence of e-Trade", The International Commerce and Law Review, Vol. 43.
- Shim, Chong-Seok and Min-Kyo Seo(2009), "A Legal Study on the Complimentary Issues of Electronic Trade Promotion Act in Korea", The Journal of Korea Research Society for Customs, Vol. 10, No. 3.
- Shim, Sang-Ryul and Yoon-Say Jeong(2007), "A Study on the Status and Strategies of Standardization for the Era of u-Trade", Korea Trade Review, Vol. 32, No. 5.
- Song, Sun-Yok(2011), "An Empirical Study on the Factors Affecting the Participation of u-TradeHub in terms of Product Characteristics and Sourcing Patterns -Focused on the u-Trade Search Service-", The International Commerce and Law Review, Vol. 49.
- Yun, Soo-Young(2010), "A Study on the Global Strategy and Challenges of Paperless Trade in Korea", International Commerce and Information Review, Vol. 12, No. 1.
- Ministry of Knowledge Economy(2002), e-Trade Development Vision for 2010.
- Ministry of Knowledge Economy(2002), e-Trade Proliferation Plan.
- Ministry of Knowledge Economy(2003), e-Trade Forum.
- Ministry of Knowledge Economy(2004), e-Trade Innovation Plan Forum.

ABSTRACT

The Role of Electronic Trade Platform in the Information Technology Era

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This thesis examines the problems faced in the electronic trade platform for which improvements are necessary, and suggests various ways of overcoming those problems.

Practical implications regarding the advancement of Korea's u-TradeHub system are as follows. First, from the technical and legal aspects, to make up for a lack of support systems for spread of users, it is required to promote customized advertising strategies through Ministry of Knowledge Economy and establish a global certification system. Second, document standardization and digitalization should be achieved in advance to make the documents distributed through the e-Trade platform in a seamless manner. Furthermore, an ongoing global network development project should be promoted through the e-Trade platform to achieve standardization. Third, from the operational aspect, it is important to maintain an integrated and systematic relationship with related organizations. Because vertical integration among logistics service providers and GSCM are enabled through the e-Trade platform, it is necessary to standardize global network-based linkage and operating systems.

Key Words : Electronic Trade Platform, u-TradeHub, Single Window
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