

A Study on the Effectiveness of e-Trade Marketing for Export Performance^{*}

전자무역 마케팅의 수출 성과에 대한 효과성 분석

Hag-Min Kim

Professor, International Business and Trade
Kyung Hee University

Contents

- | | |
|------------------------|----------------|
| I. Introduction | IV. Conclusion |
| II. Literatures Review | References |
| III. Research Model | 국문초록 |
| IV. Data Analysis | |

Abstract

The objective of this study is to improve export performance using e-Trade marketing systems. The use of e-Trade has been increasing but there is some controversy about the performance of e-Trade marketing for Small-to-Medium enterprises (SME). The research construct for determining the export performance is suggested and five factors are introduced in this paper such as: B2B relationship and cooperation, product complexity, online fitness, level of internationalization, and use of e-Trade marketing. Sample data were collected from the companies who are familiar with the e-Trade systems. The result shows that the use of e-Trade marketing mostly contributes to the increase of export performance. The regression and cluster analysis shows that both variables of e-Trade marketing and on-line fitness are significant to high export performance group. The implication for SMEs is that the use of e-Trade marketing methods could contribute to the increase of export performance and more analytical works need to be made for future study.

Key Words : e-Trade, Export Marketing Effectiveness, SMEs, Marketing Use

* This work was supported by the Korea Research Foundation Grant." (KRF-2009-013-B00050)

I. Introduction

The e-Trade is being widely accepted in Korea and there have been many projects, so called the e-Trade platform constructions. It is well known that the Korean government has been stimulating global e-Trade promotions very aggressively at national level. These include the 'Three Years Promotion Plan', 'Business Process Reengineering and Information Strategic Planning', 'e-Letter of Credit Service', 'e-Trade Promotion Law', and 'e-B/L', just to name a few. Even though many e-Trade promotions have been undertaken in Korea, there exist several critiques about the e-trade performance. In particular, the research related to the performance at the marketing stage, among the e-Trade processes, is very few. (Lee and Kim, 2010¹⁾). Therefore, it is important to find the relationship how e-Trade marketing can increase the export performance for SMEs.

The e-Trade marketing research attracts many groups because it's new and challenging and its research can be classified into three parts. The first is related to the e-Trade performance and the study focuses on factors analysis to determine the performance. The second type of research is related to traditional international marketing research. Several variables are found in this direction such as international marketing strategy by Cavusgil and Zou (1994)²⁾; government support by Kotabe and Czinkota (1993)³⁾; and international market competence by Knight and Dalgic (2000)⁴⁾. Criticism, however, can be found in theoretical background in explaining its relationship with the e-Trade marketing. Little research has been done to find the relationship between traditional international marketing variables and the e-Trade marketing performance. In this regard, this paper targets finding the relationship between international marketing variables and the export performance with e-Trade marketing. The third type is related to the use of e-Trade marketing methods. The e-Trade marketing has been using diverse methods with the help of digital technology. At the beginning, the e-Trade marketing used methods such as Internet marketing,

1) Lee, H.H. and Kim, H.M., "The Study of Effects on Asset Specificity to the Global e-Trade Performance", *Journal of Commerce and Information Review*, Vol. 12, No. 4, 2010, pp. 25-45.

2) Cavusgil, S. T. and Zou, S., "Marketing Strategy - Performance Relationship," *Journal of Marketing*, Vol. 58, Iss. 1, 1994, pp.1-21.

3) Kotabe, M. and M.R. Czinkota, "State Government Promotion of Manufacturing Exports: A Gap Analysis," *Journal of International Business Studies*, Vol. 23, Iss. 4, 1993, pp. 637-658.

4) Knight, G. A. and Dalgic, T., "Market Orientation, Marketing Competence, and International Company Performance," *American Marketing Association, Conference Proceedings*, Vol. 11, 2000, p.205.

trade referral sites, marketplace promotions, and search engine marketing. But at the present, social media marketing has been introduced to the marketing, and thus to international marketing, such as blogs, Twitter, YouTube, and Facebook. The objective of this study, therefore, is to find the relationship between the use of e-Trade marketing and the export performance.

The motivation for this paper comes from the fact that the e-Trade is not fully showing its performance results in particular for SMEs (Lee and Kim, 2010). The main reason is that most e-Trade research has been focusing on the post-contract activities such as e-L/C, e-B/L, and e-customs and therefore there is a limited number of research into e-Trade marketing. Another reason is the lack of market intelligence and this problem is more apparent in SMEs than big firms because of the digital gap. Since most users of e-Trade are SMEs, the export performance of e-Trade could be different between the two groups. The objective of this study is to derive effective solutions to improve the e-Trade marketing performance for SMEs. In particular, this work intended to find the relationship between export performance of SMEs and e-Trade marketing. The e-Trade marketing has been identified as important work and the increase of its effectiveness becomes important problem in both practical and academic circles (Lee and Jung, 2011⁵).

This research intends to fulfill both academic and practical purposes. It is therefore of interest to make a hypothesis between the e-Trade marketing and export performance of SMEs. The composition of this paper is made as follows. Section II discusses literatures about the e-Trade marketing and the factors are introduced for export performance. Section III suggests the e-Trade marketing model for export performance and the variables used in the model are discussed. Section IV shows the results of data analysis from the sampled data. Section V summarizes the research findings and suggests future research directions.

5) Lee, S.J. and Lee, J., "An Empirical Study on the Marketing Performance of e-Trade using Search Engine Optimization", *Journal of Commerce and Information Review*, Vol. 13, No. 1, 2011, pp. 3-28.

II. Literatures Review

Most studies have focused on investigating the relationship between export performance and the corporate external and internal variables. The following [Table 1] shows the marketing variables for export performance. The variables influencing export performance include the corporate's profiles (Chetty and Hamilton (1993)⁶), international marketing strategy (Cavusgil and Zou, 1994), international market competence (Knight and Dalgic, 2000), and government support for SMEs (Gencturk and Kotabe, 2001)⁷). Several implications were found from the literatures review. First of all, most variables suggested in the studies are related to corporate profiles such as corporate size, international market experience, government support programs and the exporting firms expertise. But these variables fail to show marketing activities and their changes. Therefore, the implementations based on those results would be very difficult because the company profiles are mostly changing variables. In this regard, this paper would like to test a hypothesis that demonstrates how the e-Trade marketing activities could contribute to the increase of export performance.

Second, the export performance requires a dynamic model by considering marketing activities, changing environments, changes in markets, etc. It means that there exist certain changes in international markets as well as in exporting firms or both. It is however the export performance study collected the data at cross sectional level. Therefore, it is reasonable to include different types of e-Trade marketing activities in the export performance study. For example, the use of social media, (i.e., blogs, Facebook, Twitter, YouTube, and etc.) can show the readiness and speed of e-Trade marketing. In this regard, this paper would like to test the relationship between the use of each e-Trade marketing method and the export performance.

Finally, the use of e-Trade can not only contributes to the export performance but also to other international marketing variables such as the level of internationalization, partnership relationship, years of export experiences, and market information and knowledge. For example, the relationship and cooperation of exporting firms with international partners is an important variable. It is

6) Chetty, S. K. and Hamilton, R. T., "Firm-level Determinants of Export Performance: A Meta-Analysis," *International Marketing Review*, Vol. 10, Iss. 3, 1993, pp. 26-34.

7) Gencturk, E. and Kotabe, M., "The Effect of Export Assistance Program Usage on Export Performance: a Contingency Explanation," *Journal of International Marketing*, Vol. 9 No. 2, 2001, pp. 51-72.

therefore necessary to suggest other variables in the e-Trade marketing such as business relationship variables and to find the linkage between relationship and cooperation variable and e-Trade export performance.

[Table 1] Previous Works in Export Performance

Research findings		Authors
· corporate profiles and export performance	· management recognition and commitment to export	· Francis and Collins-Dodd(2000) · Johnston and Czinkota(1982) · Stump et al(1998)
	· enterprise size · experience of internationalization · its export history	· Chetty and Hamilton(1993) · McGuinness and Little(1981)
	· technical advantage · retail advantage	· Holzmuller and Kasper(1991) · Johnston and Czinkota(1982)
· international marketing strategy and export performance	· international marketing mix, product differentiation, promotion strategy	· Cavusgil and Zou(1994)
· international market competence and export performance	· foreign market experience · human resources proportion for international business · expertise of international market information · R&D spending & attitude toward international market	· Knight and Dalgic(2000)
· government support and export performance	· corporate size · export intensity · export experiences · number of export countries	· Ahmed et al(2002) · Burpit and Rondinelli(1998) · Crick(1995) · Gencturk and Kotabe(2001) · Kedia and Chhokar(1986) · Kotabe and Czinkota(1993) · Moini(1998) · Welch and Wiedersheim-Paul (1979)
· e-Trade marketing and export performance	· asset specificity · trade processes · search engines · e-marketplaces · trade-referral sites	· Lee and Kim (2010) · Lee and Jung (2011) · Kim and Lee (2009)

This research comes from the idea that the internationalization issue of enterprise, in particular SMEs. It is well known that the digital gap between large and small corporations is quite big and thus the government needs to support this small sized organization. In this regard, the global

e-trade could be a good tool for making effective use of its internationalization. But the level of performance still needs to be improved and many criticisms come from the fact that the global e-trade does not have in depth of marketing strategy in addition lacking action plans.

Most of e-Trade performance researches are limited at macro level analyses such as country competitiveness, transaction cost decrease, SME support, etc. It is therefore of interest to include dynamic and micro-level variables in export marketing. The dynamic variables has to be included in the model.

III. Research Model

The research question is to discover whether the use of e-Trade marketing in SMEs can contribute to the international marketing performance. The research hypotheses are set up as following:

- H1. The high level of B2B relationship and cooperation is likely to increase the export performance.*
- H2. The type of products or services would determine the different level of export performance.*
- H3. The export market intelligence is likely to increase the level of export performance.*
- H4. The e-Trade marketing activities is likely to increase the level of export performance.*

1. Export Performance

The construct of export performance is considered as dependent variable in this research. The explanatory variables for export performance include corporate profiles, international marketing strategy, international market competence and government support programs as seen in [Table 1]. According to Kotler's taxonomy of marketing information systems, two types of information on foreign markets are important to exporting firms: market research and intelligence. In reality, SMEs rarely invest in international market research. Market research can be performed by either direct or indirect marketing systems. The direct marketing

system is the one operated by exporting company whereas indirect marketing system is the one provided by export intermediary. But most SMEs are not capable of constructing their own direct marketing systems and thus they have to use international market agents or an export intermediary.

Exporters can accumulate their market intelligence from specific market data (market size or growth, import procedure and requirements, etc.). The source of information or knowledge comes from either specialized or non-specialized agents or other business partners. Information is gathered indirectly in the course of business transactions, such as, international banking services, freight forwarders and other export middlemen, or by participating in events such as international fairs. This research examines how well the e-Trade marketing activities play a determining role in export performance. The export performance variables used in this study are as follows: 1) the size increase in the volume of exports; 2) the increase in export proportion; 3) contribution to market diversity; and 4) contribution to brand awareness in international markets.

2. B2B Relationship & Cooperation

The hypothesis H1 is constructed to test the significance of business-to-business relation and cooperation between international trading partners. It was found that the subsidiary's perceptions, communications and the relationship with the headquarter marketing operation (Hewett et al, 2003)⁸). The good relationship between trading partners can increase the export performance. On the other hand, the poor relationship between headquarter and subsidiary is negatively influencing the export performance. If we accept this view, the relationship and cooperation variables could make significant effects on the increase of export performance. On the other hand, if the H1 is not supported, then it tells us that the relationship and cooperation are not directly influencing on the export performance but indirectly related to other variable such as the use of e-Trade Marketing.

Therefore, the directness effect of the relationship and cooperation variable is being tested. If the relationship variable would be found to be direct one, then the exporting firms would make efforts on managing the good relationship between trading partners. However, if H1 is not supported, (i.e., indirect effect), other variables such as product complexity and e-Trade marketing activities are more important to export performance. Under the circumstance of H1 not accepted, the use of e-Trade marketing

8) Hewett, K, Roth M.S. and Roth, K., "Conditions Influencing Headquarters and Foreign Subsidiary Roles in Marketing Activities and Their Effects on Performance," *Journal of International Business Studies*, Vol. 34, No. 6, 2003, pp. 567-585.

tools could increase the level of relationship and cooperation between trade partners. In practice, the use of different methods in e-Trade marketing can increase the export performance. The variables used for measuring the relationship and cooperation in this research were the level of communication, trust between trading partners and information sharing.

3. Products Complexity

This hypothesis is related to the products types in e-Trade. The hypothesis assumes that the more complex product in international trade the higher use of e-Trade marketing. In other words, the products types could be significant variable in the e-Trade marketing. This hypothesis is similarly associated to the international market competence theory by Knight and Dalgic (2000). In this research, the product complexity are measured to determines the use of e-Trade marketing.

For example, the products types using different criteria can be diverse such as manufactured or service products; industrial or consumer goods. Then, the hypothesis H2 aims at testing the relationship between exporting products and the export performance. If so, then the products types requires relevant method of using e-Trade marketing tools. In this research, the measures of online fitness are introduced. In other words, what kinds of products are suitable for the e-Trade marketing? The online fitness products or services would increase the level of export performance with the use of e-Trade marketing tools. Therefore, the H2 shows that each exporting firm has to be careful in selecting an e-Trade marketing method.

4. Market Intelligence

Market intelligence is considered as a key variable to export entry and expansion. Governments like South Korea and US are providing extensive information services to fulfill the intelligence needs of exports. It has been pointed out, however, that such services are not being used to the extent anticipated, in particular by small exporters. Most problems are coming from the lack of market intelligence which results from the lack of information density. In this research, the information density is being investigated based on the global e-trade marketing practices. The information density is interpreted as the amount and quality of Korean products. Therefore, some conceptual variables for information density in global e-Trade marketing will be derived and some measurable variables will be collected for empirical tests.

The hypothesis H3 would like to test whether the market intelligence would increase the level of export performance. It is however that the likelihood of accepting H3 is very low because the market intelligence without marketing activities can not increase the level of export performance. Also, it is very hard to measure the degree of market intelligence and thus one has to use proxy variable. Determining intelligence is directly related to the level of internationalization. It means that the high level of export experiences can also have high level of market intelligence. Therefore, level of market intelligence could be highly related to export performance. One good proxy variable of market intelligence could be the level of internationalization because it's simple and easy to use. It assumes the firms with high level of internationalization have high level of market knowledge and intelligence. The measures used in this research were: 1) the export proportions out of total sales; 2) the number of years in export experiences; and 3) the number of export experts.

5. Use of e-Trade Marketing

This hypothesis is related to the dynamic capability of enterprise in export marketing. So, far all the variables discussed are related to static one but the international market itself is very much changing. The term of dynamic e-Trade marketing is related to the state how fast an enterprise can take actions in the e-Trade marketing. The e-Trade marketing includes all activities such as trade referral sites, search engines, e-mails, blogs, Facebook, YouTube, Twitters, RSS and etc.

All tools mention belong to e-Trade marketing tools. But not all of them are dynamic because the e-mails and blogs are lack of dynamic features. The dynamic marketing activities are dependent upon the amount of updated and recent information and the responses made mostly in real time. Another requirement is that the e-Trade marketing must have intelligent capability of marketing tools. The smartness of digital device generally refers to its ability of being dynamic, intelligent, two-way communicative, memorable, and network communications. The term of smartness is controversial in academic literatures but these tools have a significant influencing upon e-Trade marketing practice.

In this paper, the hypothesis H4 assumes that the use of e-Trade marketing methods is effective to increasing export performance. If this hypothesis will be accepted, then the dynamic nature of e-trade marketing should be more implemented in the practice. The measures of e-Trade

marketing activities are used for the respective use of 1) trade referral sites; 2) homepage and e-mails; 3) blogs; 4)Twitter; 5) search engine; and 6) other social media. This hypothesis can make an answer for determining effective e-Trade marketing method. Also, the result of H4 can determine whether the use of social media is widely recognized in the e-Trade marketing.

IV. Data Analysis

1. Descriptive Statistical Analysis

For creating the list of survey recipients, we first identified the exporting companies from the trade organizations. Then, we searched for their e-mails and other information. Online survey was performed only for the people who are willing to participate. Later phone calls were made to promote the survey. The experiment was performed for two months from May to June in 2010. Finally, the total of 192 samples were collected.

It is shown that the respondents were from diverse industry. As seen in [Table 2], the type of industry includes electronics, machines, autos, textiles and garments, and the others. The composition of this sample is very similar to that of Korea major export industries. Since this group covers more than 50% of the total sample it is appropriate for representing manufacturing industry. The other group is mostly service related companies.

[Table 2] Industrial Classification of Sampled Data

Industry	Number of companies	Industry	Number of companies
Electronics	35(18.2%)	Autos	15(7.8%)
Machines	35(18.2%)	Textile and garments	21(10.9%)
Others	86(44.8%)		
total		192(100%)	

The number of employees are shown in [Table 3] and the largest group has more than 10 and

less than 50 persons. The sample covers fairly large number of SMEs.

[Table 3] Number of Employees in Sampled Corporations

number of employees	number of firms	number of employees	number of firms
less than 10	54(28.1%)	between 100 and 300	26(13.5%)
between 10 and 50	65(33.9%)	more than 300	17(8.9%)
between 50 and 100	30(15.6%)		
total		192(100%)	

53.6% of the sample did over 1 million US dollars in export for the last one year. The export amount is not big enough and thus the sampled firms are mostly belong to SMEs. The sampled firms are exporting either service or non-service products and 88% of the respondents are exporting non-service products (see [Table 4]). The non-service products are mostly related to the manufactured goods. The reason for classifying into two parts is that the service products could fit better for the use of e-Trade marketing.

[Table 4] Major Export Items of Sampled Firms

product category	number of companies
service products	23 (12%)
non-service products	169 (88%)
total	192 (100%)

The sampled firms internationalization can be found by measuring the export proportion out of total sales. It is found that the sampled firms are fairly internationalized because the export proportion covers all range. The export proportion less than 20% is the biggest of 29.2%. The next one is for the group whose export proportion is bigger than 80%, that is, 26.6%. The number of years in export experience is also investigated for determining the degree of internationalization. It shows that 55.2% of the respondents has more than 10 years of exporting experience (see [Table 5]) and this shows the sampled companies cover a wide range of exports experiences.

[Table 5] Years of Exports Experiences

number of years in exporting experiences	number of companies
less than 1 year	2 (1%)
1 - 3 years	4 (2.1%)
3 - 5 years	27 (14.1%)
5 - 10 years	53 (27.6%)
more than 10 years	106 (55.2%)
total	192 (100%)

Another measure used for investigating the degree of internationalization is the experiences of export personnel. It shows the similar results of the corporate experience in exporting. Our analysis is extended to the use of e-Trade marketing. We first investigated what the most frequently used method in the e-Trade marketing would be. The result shows that the use of home page and e-mail marketing has the biggest figure of 81.8%. And the use of e-marketplace is the next one of 54.2%. It is of interest to see that the use of search engine marketing ranks the third. The search engine provides a good tool to search for products or business partners. Also, many companies are using more than one method and it indicates that multiple use of e-Trade marketing can get wider access from business partners.

[Table 6] Use of e-Trade Marketing Activities

Items	e-Marketplace	blogs	Twitter	Search Engine	other Social Media
strongly disagree	13 (6.8%)	22 (11.5%)	31 (16.1%)	15 (7.8%)	34 (17.7%)
disagree	48 (25.0%)	75 (39.1%)	83 (43.2%)	47 (24.5%)	89 (46.4%)
neutral	59 (30.7%)	62 (32.3%)	52 (27.1%)	64 (33.3%)	43 (22.4%)
agree	55 (28.6%)	30 (15.6%)	20 (10.4%)	57 (29.7%)	22 (11.5%)
strongly agree	17 (8.9%)	3 (1.6%)	6 (3.1%)	9 (4.7%)	4 (2.1%)
total	192 (100%)	192 (100%)	192 (100%)	192 (100%)	192 (100%)

However, the use of social media in the e-trade marketing is considered as a new method. For example, the use of blogs in the e-Trade marketing is shown in the third column of [Table 6].

Mostly the respondents were not willing to use it. Similar results were obtained for the use of Twitter. The search engine has more usages than blogs and Twitter. The 33.3% respondents say neutral, and the 29.7% of people agree with the use of search engine for the e-Trade marketing.

It supports the fact that the social media are not yet considered as the e-Trade marketing tool compared to search engine in Korea. The overall use of social media as a tool is not matured enough but only around 15% of them are currently or will use them.

[Table 7] Increase in Export Performance after Using e-Trade Marketing

Items	Export Proportions	Export Amount	Market Diversification	Brand Awareness	Support Program
strongly disagree	24 (12.5%)	29 (15.1%)	25 (13%)	23 (12%)	24 (12.5%)
disagree	75 (39.1%)	81 (42.2%)	72 (37.5%)	48 (25%)	53 (27.6%)
neutral	65 (33.9%)	56 (29.2%)	55 (28.6%)	80 (41.7%)	68 (35.4%)
agree	27 (14.1%)	24 (12.5%)	36 (18.8%)	37 (19.3%)	44 (22.9%)
strongly agree	1 (0.5%)	2 (1%)	4 (2.1%)	4 (2.1%)	3 (1.6%)
total	192 (100%)	192 (100%)	192 (100%)	192 (100%)	192 (100%)

The effect of e-Trade marketing in export amount is not great because for the last one year 39.1% does not agree with the export amount and 14.1% are affirmative (refer to [Table 7]). Similar results are obtained in increase in the proportion of export out of total sales. The market diversification effect is not promising in the e-Trade marketing. And the company brand awareness and image increase after using e-trade marketing is not significant either. The survey results show that the respondents are using the government support program after using the e-trade marketing tool. About 24.5% are utilizing the program.

2. Reliability and validity Analysis

In this section, the reliability and validity analysis is performed for the items measured. The simple question is whether our measured items are reliable and valid. First, we performed descriptive statistical analysis of research constructs. The research constructs used in this work is

relationship and cooperation, product complexity, on-line fitness, marketing use, and export performance. The objective of this set up is to find the relationship among the research constructs. The descriptive measures for five factors are seen in [Table 16] and the distribution is fairly scattered.

[Table 8] Descriptive Statistics

Constructs	Average	Standard Deviation	Minimum Value	Maximum Value
cooperation	3.589	0.525	2.400	5.000
product complexity	3.224	0.826	1.000	5.000
on-line fitness	2.956	0.810	1.000	5.000
marketing use	3.663	0.920	1.667	5.000
level of internationalization	2.677	0.805	1.000	5.000
export performance	2.601	0.854	1.000	4.600

The reliability analysis is usually performed for checking whether the items measured represent theoretical variables(Churchill, 1979). In this study, Cronbach’s alpha is used to check the reliability. It is found that all values are exceeding the benchmark and it is seen in [Table 9].

[Table 9] Reliability Analysis of Research Variables

Research Constructs	No. of Items	Reliability Factor
cooperation	5	.732
product complexity	2	.643
on-line fitness	2	.634
use of e-Trade marketing	5	.865
level of internationalization	3	.598
export performance	5	.932

The validity tells us how well the variables are capable of predicting the research constructs. Since the validity concept is widely defined and it is necessary to check whether the variables suggested are consistent with the items measured. This research implemented factor analysis to

find out the loading factors and it is seen in [Table 10]. We found that the exploratory factor analysis is appropriate after testing KMO statistics and both convergent validity and discriminant validity are supported in the analysis.

[Table 10] Factor Analysis

	1	2	3	4	5	6
Active Communication	-0.016	0.033	0.757	0.194	-0.024	-0.029
Degree of Trust	0.055	-0.044	0.777	-0.006	0.055	0.065
Degree of satisfaction	-0.013	-0.021	0.770	0.006	0.099	0.089
Common goals sought	0.039	0.063	0.624	-0.029	0.091	-0.142
Partnership sufficiency	-0.082	-0.001	0.547	0.139	-0.179	0.004
Belonging to service product	-0.085	0.129	0.014	-0.018	0.085	0.855
Product complexity	0.043	-0.074	-0.031	0.133	0.022	0.834
Information expertise	0.185	0.216	0.073	0.017	0.789	-0.010
Fitness of internet marketing	0.020	-0.007	-0.011	0.022	0.857	0.112
Use of trade referral site	0.456	0.594	0.053	-0.022	0.175	-0.021
Use of homepage and e-mails	0.234	0.806	-0.019	0.021	0.001	0.003
Use of blogs	0.153	0.856	0.001	-0.019	-0.012	-0.023
Use of Twitter	0.424	0.648	0.072	-0.091	0.116	0.141
Use of search engine	0.157	0.828	-0.017	-0.042	0.091	0.010
Increase in export amount	0.885	0.164	0.012	-0.003	0.031	0.012
Increase in export weights	0.859	0.194	-0.003	0.036	0.006	-0.012
Increase in market diversity	0.891	0.192	-0.006	0.034	-0.004	-0.075
Increase in brand awareness	0.863	0.175	0.000	-0.036	0.099	-0.033
Increase in export support program	0.803	0.283	-0.051	-0.025	0.120	0.039
Export proportions	-0.062	-0.019	0.070	0.701	0.217	0.117
No. of years in exports	0.011	-0.076	0.116	0.777	-0.026	0.086
Export personnels	0.047	0.010	0.061	0.779	-0.127	-0.076

The criterion-related validity tells us how well each attribute or measure is to predict other research constructs. The criterion-related validity gives the directions among research constructs. In this paper, we performed the Pearson's correlation analysis to find out the linear relationship among them. The results are shown in [Table 11]. Most of them are related each other and the export performance has a significant relationship with the degree of internalization. Also, the

products or services with online fitness have significant relationship with the e-trade marketing use and the level of internationalization. This results are consistent with the previous findings and thus the criterion-related validity is supported.

[Table 11] Correlation Analysis among 6 Factors

	B2B relationship and cooperation	product complexity	online fitness	use of e-Trade marketing	level of internationalization	export performance
B2B relationship and cooperation	1					
product complexity	0.000	1.000				
online fitness	0.053	-0.132	1.000			
use of e-Trade marketing	0.186**	-0.117	0.055**	1.000		
level of internationalization	0.020	-0.048	0.243**	-0.059	1.000	
export performance	-0.013	0.029	0.206	-0.016	0.555**	1

* : P<.05, ** : P<.001

3. Hypotheses Testing with Regression Analysis

The multiple regression analysis is performed to test the significant variables for determining the export performance. As seen in [Table 12], the e-Trade marketing use variable significantly influences on the export performance. The coefficient estimate is 0.572 and its p-value is 0.000. Therefore, the hypothesis H4 is being supported in this sample. This result indicates that the use of e-Trade marketing variable is the most important one for differentiating the export performance.

[Table 12] Results of Multiple Regression

dependent variable: export performance	regression analysis					multi-collinearity	
	non-standardized		standardized	t	p		
	B	std. error	Beta				
cooperation	-0.054	0.100	-0.033	-0.538	0.591	0.962	1.039
product complexity	0.071	0.064	0.069	1.116	0.266	0.969	1.032
online fitness	0.089	0.066	0.084	1.338	0.183	0.922	1.084
internationalization level	0.023	0.058	0.025	0.404	0.686	0.945	1.058
use of e-Trade marketing	0.572	0.066	0.540	8.619	0.000	0.935	1.070
R-square = 0.319, Adj. R-square = 0.300, F = 17.393, significance = 0.000							

However, the hypotheses of H1, H2, and H3 are not supported in this work. It means that all three factors of the relationship and cooperation, online fitness of products types, and the level of internationalization do not show the direct influences on export performance. Only the e-Trade marketing factor significantly influences positive export performance in this study. The other factors however show indirect relationship with export performance. For example, the relation and cooperation variable is not directly related to export performance but it is relates with the use of e-Trade marketing. It implies that the export firms who has a good relationship and cooperation with exporting partners could be good candidates for e-Trade marketing. It also indicates that the establishment of trust between trade partners could be a requirement for effective e-Trade marketing. Similar results were found for H2 and only online fitness are associated with e-Trade marketing. This finding is consistent with the correlation analysis in [Table 11].

4. Cluster Analysis

In this paper, we divided the sample into two groups: one belongs to high performance group

and the other to low group. The K-average cluster analysis was used and it ultimately suggested 96 companies for high and low performance groups. Following this, the ANOVA test was performed to see the difference resulting from the variables suggested. If all the dependent variables would be good candidates, then the variables loaded to the export performance factor have to show the difference between high and low performance groups. All export performance measures between two groups are significantly different as seen in [Table 13] and thus the clustering used in this work is effective.

[Table 13] Results of ANOVA by Export Performance Variables

Variables	mean square	d.f.	mean square	d.f.	F	p-value
increase in export amount	90.750	1	0.343	190	264.337	0.000
increase in export proportion	97.755	1	0.353	190	276.915	0.000
diversification in export market	120.333	1	0.379	190	317.638	0.000
increase in corporate image	89.380	1	0.480	190	186.383	0.000
increase in use of export promotion program	84.005	1	0.566	190	148.546	0.000

It is also of interest to see which variables are effective to predict the high performance group. It is found that the e-trade marketing use and the online fitness shows the difference (see [Table 14] and [Table 15]). The e-Trade marketing factor shows the difference between two groups. However, the products types measured by the online fitness shows the marginal result because the p-value is not small enough to conclude the difference by products types. This result is also consistent with the regression analysis result in [Table 12] because the H2 was not concluded in this work.

[Table 14] Chi-square Test for e-Trade Marketing Use

	Value	Degree of freedom	P-value (two-tailed)
Pearson Chi-square	63.397	19	0.000
Maximum likelihood	74.597	19	0.000
Linear to linear combination	51.901	1	0.000
Effective cases	192.000		

[Table 15] Chi-square Test for Online Fitness

	Value	Degree of freedom	P-value (two-tailed)
Pearson Chi-square	15.421	8	0.051
Maximum likelihood	18.292	8	0.019
Linear to linear combination	4.382	1	0.036
Effective cases	192.000		

[Table 16] Performance of e-Trade Marketing between Two Groups

		average	standard deviation	standard error	95% confidence interval	
					Min.	Max.
trade referral sites	Low	2.552	0.983	0.100	2.353	2.751
	High	3.604	0.900	0.092	3.422	3.787
	Total	3.078	1.078	0.078	2.925	3.232
blogs	Low	2.219	0.836	0.085	2.049	2.388
	High	2.917	0.914	0.093	2.732	3.102
	Total	2.568	0.941	0.068	2.434	2.702
Twitter	Low	2.052	0.773	0.079	1.895	2.209
	High	2.771	1.041	0.106	2.560	2.982
	Total	2.411	0.983	0.071	2.272	2.551
search marketing	Low	2.500	0.906	0.092	2.316	2.684
	High	3.479	0.894	0.091	3.298	3.660
	Total	2.990	1.023	0.074	2.844	3.135
other social media	Low	1.969	0.774	0.079	1.812	2.126
	High	2.708	1.004	0.103	2.505	2.912
	Total	2.339	0.968	0.070	2.201	2.476

This result indicates that the high export performance group is using social media for their global marketing use. The [Table 16] shows the average value for each use of social media for two groups. Also the [Table 17] shows the analysis of variance for the e-trade marketing methods. The ANOVA test was performed for two groups, i.e., high and low performance groups. The average performance of high performance group is always bigger than that of low performance group by e-Trade marketing tools. Another interesting observation is that the sampled companies most frequently used trade referral sites and at the next level used the search marketing. The new social media such as blog, Twitter and other media are not generally accepted for export marketing methods. But about 25% of sampled corporation are using them. It means that the social media is considered as new tool for the e-trade marketing use.

[Table 17] Analysis of Variance for e-Trade Marketing Methods

		sum of squares	degree of freedom	mean squared	F	p-value
trade referral sites	between groups	53.130	1	53.130	59.839	0.000
	within groups	168.698	190	0.888		
	total	221.828	191			
blogs	between groups	23.380	1	23.380	30.481	0.000
	within groups	145.740	190	0.767		
	total	169.120	191			
Twitter	between groups	24.797	1	24.797	29.502	0.000
	within groups	159.698	190	0.841		
	total	184.495	191			
Search marketing	between groups	46.021	1	46.021	56.794	0.000
	within groups	153.958	190	0.810		
	total	199.979	191			
other social media	between groups	26.255	1	26.255	32.660	0.000
	within groups	152.740	190	0.804		
	total	178.995	191			

IV. Conclusion

In this study, we have investigated e-Trade marketing effectiveness in SMEs in Korea. The use of e-Trade has been increasing but the performance of e-Trade marketing for Small-to-Medium enterprises (SME) is controversial. The research construct for determining the export performance is suggested and five factors are introduced in this paper such as: B2B relationship and cooperation, product complexity, on-line fitness, level of internationalization, and the use of e-Trade marketing. Sample data were collected from the companies who are familiar with the e-Trade systems.

The result shows that the use of e-Trade marketing mostly contributes to the increase of marketing effectiveness. The regression and cluster analysis shows that both variables of e-Trade marketing and on-line fitness are significant to high export performance group. The implication for SMEs is that the use of e-Trade marketing methods could contribute to the increase of export performance and more analytical works should be made for future study.

The use of e-marketplace and search engine is the most preferable method in e-Trade marketing. However, the use of social media in the marketing is considered as new one. Many of the exporting SMEs are not willing to use them. It is also found that the activeness of e-Trade marketing is not great. Therefore, we should examine the barrier factors of e-Trade marketing performance for future study. By regression analysis and cluster analysis, it is found that e-Trade marketing use and on-line fitness variables are effective to predict the high performance group. The average performance of high performance group is always bigger than that of low performance group by e-Trade marketing tools.

This study has some theoretical implications. First of all, the results from this research would contribute to the development of e-Trade marketing theory. It is true that the theoretical buildings for e-Trade marketing has been requested by many scholars. Both conceptual and physical models will be welcome to academic community to explain e-Trade marketing effectiveness. Second, the results of this research shows that the relationship marketing would be a valuable approach in e-trade marketing. The assumption is supported that the global e-trade provides a high degree of relationship among trading partners and thus contributing to the increase of its e-Trade marketing. Therefore, it is necessary to develop an advanced theoretical model and to test it for validity. Third, this research can contribute to the characterization of internationalization for SMEs and

exporting policy. The provision of information services for the firms is very critical and those are being provided by public and private institutions. Future study would be targeted on how the exporting firm gather the information for the marketing and how well they are satisfied with different information sources.

This research has also some practical implications. Since the concept of international marketing intelligence is introduced in this research (i.e., the online fitness and the use of e-Trade marketing) the results will contribute to industry how they can implement effective marketing programs. The results from hypotheses tests will give a direction how they can set up the priorities and what kind of knowledge would be required for increasing the information density.

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국문초록

전자무역 마케팅의 수출 성과에 대한 효과성 분석

김 학 민*

본 논문은 전자무역의 마케팅 효과성을 높이기 위하여 그 활용실태를 분석하고, 그 개선방안을 부분적으로 제시한 논문이다. 전자무역 마케팅은 그 개선 필요성이 제기되어 왔다. 특히, 중소기업의 전자무역 마케팅은 대기업과 비교할 때 그 효과성 측면에서 미흡한 것으로 파악되고 있는데, 본 논문은 이를 개선하기 위한 기초연구 차원에서 수행되었다.

먼저 전자무역 마케팅에 대한 실효성을 증진시키기 위하여 연구모형을 제안하였으며, 이에 관한 연구가설을 제안하였다. 연구가설은 B2B관계 및 협력, 제품형태, 온라인적합성, 국제화 단계, 전자무역 마케팅 활용, 수출성과의 6가지 요인모형을 제시하였다. 이의 검증을 위하여 전자무역 마케팅을 전개하는 기업들을 대상으로 설문조사를 실시하였으며, 이를 바탕으로 통계분석 및 가설검정을 수행하였다.

통계분석 및 가설검정 결과, 전자무역 마케팅 활용이 수출성과에 가장 중요한 영향을 미치는 것으로 파악되었다. 또한, 고성과 집단과 저성과 집단의 차이를 분석한 결과 무역거래 알선 사이트, 블로그, 트위터, 검색마케팅 활동을 활발히 전개하고 있는 것으로 분석되었다.

본 연구 결과는 중소기업의 전자무역 마케팅효과를 증진시키기 위해서는 효율적인 활용수단을 적극적으로 이용할 것을 시사하고 있다. 본 연구의 한계점은 수출성과에 제시된 변수들이 제한적으로 검증되고 있는 바, 향후 연구모형의 수정과 함께 수출성과의 다양한 측면을 고려하여 추진하는 것이 바람직하다고 생각된다.

주제어 : 전자무역, 수출마케팅 효과성, 중소기업, 전자무역 활용