An Empirical Study on the Utilization and Performance of the Korea-China FTA in Korean SMEs*

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Abstract

Purpose – Based on the Korea-China FTA as the starting point, this paper makes an empirical analysis of the main influencing factors of the FTA utilization and performance of SMEs.
Design/methodology – Taking into account the relationship between the internal and external environmental factors on FTA activities and performance of Korea's SMEs, with PLS-SEM and data obtained by the questionnaire, Smart PLS was applied for the analysis.
Findings – The recognition of FTA in SMEs has a significant positive effect on FTA utilization and performance, the international marketing orientation factor only has a significant positive effect on the performance, while the inadequate improvement of non-tariff barriers has a significant negative impact on FTA utilization. In addition, FTA activity has a significant mediation effect on two paths.
Originality/value – This paper is of great practical relevance as a tool to enable SMEs to make effective utilization of Korea-China FTA and improve their imports and exports. The paper helps grasp the main factors affecting the utilization and performance of FTA for SMEs, also to establish FTA Business Model and FTA utilization plans for specific industries in the future regarding tariff and non-tariffs compatibility.

Keywords: FTA Utilization, Korea-China FTA, SMEs
JEL Classifications: F10, F14, F18, R10

1. Introduction

A Free Trade Agreement (FTA) is an agreement that allows countries in an agreement to trade in goods and services freely as one entity; it is an agreement that completely abolishes trade tariffs and trade barriers. Recently, the signing of a free trade agreements (FTA) in order to promote international trade has been a global trend, which plays a pivotal role in trade liberalization. As FTAs between countries become more frequent, the competition in the global economy is rapidly spreading. Korea has also liberalized trade through mechanisms such as signing 15 FTA deals with 50 countries (FTA Korea, 2017). On December 20, 2015, the largest FTA deal of Korea, Korea-China FTA entered into force. Although the FTA deal period was short, the Korea-China FTA deal has greatly changed the trade environment between the two countries throughout the progress of the negotiation; the effect on

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corporations which exported goods was also expected to be large. During the Korea-China FTA negotiations, tariff and non-tariff articles on sensitive items were negotiated over two sessions, which was a measure to protect sensitive items in both countries (Shen Zhi-Feng and Kim Tae-In, 2016). The FTA was expected to have a large economic impact on China due to its comparatively high tariff and non-tariff barrier (Lee Choong-Bae, Noh Jin-Ho and Seo Yoon-Hee, 2011). The objective of an FTA is to quite initialize trade liberalization and facilitation by stipulating comprehensive mitigation of non-tariff and tariffs areas among the member countries of such agreements. In particular, most of the FTA utilization is based on tariff concession and cancellation, and the FTA tariff rate will be abolished or moderated in accordance with the FTA negotiation schedule. In the future, it is important for export and import companies to establish strategies for the utilization of FTAs.

Korea and China are large trade markets which cannot ignore each other, and the Korea-China FTA stands as a mechanism to maximize mutual trade profit between the two countries. Although the Korea-China FTA is a powerful means of increasing the trade profits between Korea and China, SMEs are often unable to recognize and utilize FTAs due to the excessive workforce requirement and costs. Therefore, in order to increase the utilization rate of SMEs' FTA, it is necessary to have the effect of "FTA improvement". The increase of FTA awareness and utilization leads to better FTA performance, and it is important to enlarge and improve the FTA application support system such as training on C/O input and composition (Kim Tae-In and Shen Zhi-Feng, 2016). As a result, it is important to establish strategic and balanced FTA utilization approaches that integrate the use of tariff reduction and non-tariff regulations.

Through the influence of internal and external environmental factors on FTA utilization and performance of SMEs in Korea, this study makes empirical analysis, grasps its main influencing factors, and puts forward a theoretical case for the necessity of strengthening FTA utilization. In the perspective of past research, the relevant research of FTA utilization mostly focuses on FTA recognition, and the individual factors of the unilateral enterprise are empirically studied. Considering the lack of studies on the mediation effect of FTA utilization, it is difficult to meet the theoretical demand of the current trading environment (Kim Tae-In and Li Jun-Jian, 2014; Kim Yang-Jung, Kim Won-Nyeon and Lee Min-Joung, 2014; Kim Yong-Tae, 2014; Park Cheol-Gu and Choi Jang-Woo, 2013; Shim Jae-Kwon, 2013; Sohn In-Bum, 2015). In the import-export field, the effecting factors of SME FTA is critically important, this part has been explained in the hypothesis, although previous studies have made segmental contribution to the research of effecting factors on FTA utilization and performance, the internal and external effecting factors were not effectively combined. The explanation with regards to SME utilization of the Korea-China FTA remains insufficient. This paper helps grasp the main internal and external factors affecting the utilization and performance of FTA for SMEs. Based on the tariff and non-tariffs compatibility, it aims to offer practical suggestions on establishing FTA Business Model and FTA utilization plans. Therefore it enables SMEs to effectively make use of the Korea-China FTA and raise exporting compatibility.

2. Theoretical Background and Hypothesis Setting

2.1. Methodology Hypothesis about Internal Environmental Factors

2.1.1. Relationship between International Marketing Orientation, FTA Utilization and Performance

International marketing orientation can affect the export of enterprises in overseas

markets, competitive enterprises related intelligence information, product localization, etc. reflect the degree of international marketing direction, and use a certain way to promote the export results of enterprises. This theory has been used by some researchers (Hwang Kyung-Yun, 2010; Kim Yang-Jung, Kim Won-Nyeon and Lee Min-Joung, 2014; Kim Jae-Woo, 2014; Kim Yong-Tae, 2014). Prior studies were divided into two aspects of behavioral and cultural aspects of market orientations (Kohli and Jaworski, 1990; Narver and Slater, 1990) and other scholars defined market orientation in detail. However, marketing orientation refers to the marketing concept and marketing philosophy that determines the direction of marketing activities of the company, Improving exports requires export marketing strategies and improvement of relevant international orientation factors, and finding that international marketing orientation is conducive to improving export results, although Kim Jae-Woo (2014) and Shim Jae-Kwon (2013) take advantage of the level of internationalization of enterprises, international marketing orientation and verify the impact on FTA's live and export results, but Kim Yang-Jung, Kim Won-Nyeon and Lee Min-Joung (2014) did not verify the impact of international marketing orientation on FTA utilization and the mediation effect of FTA utilization. Shim Jae-Kwon (2013) confirmed that overseas marketing competence factors have positive effects on the utilization of FTA export performance among internal resource factors. The FTA utilization and export performance can be achieved when general marketing functions such as after product development, price and distribution effectiveness are enhanced.

Hwang Kyung-Yun (2010) suggested that there is a significant correlation between the international marketing orientation of SMEs and their information technology capacity. They have suggested that the overseas marketing supports and training of FTA origin managers should be intensified to improve the export companies' FTA performance (Kim Yang-Jung, Kim Won-Nyeon and Lee Min-Joung, 2014). Therefore, it can be understood that the higher the orientation of international marketing by a SME, the higher their willingness to utilize the FTA. Corporate international marketing orientation has a positive effect on FTA utilization and FTA performance, but FTA utilization does not have mediating effects between international marketing orientation and FTA performance (Shen Zhi-Feng and Kim Tae-In, 2016). Therefore, considering the mediation effect of the utilization of FTAs, we set the following hypotheses.

> *H1-1: The international marketing orientation of SMEs will have a positive effect on FTA utilization.*
> *H3-1: The international marketing orientation of SMEs will have a positive impact on FTA performance.*
> *H6-1: FTA utilization will play a mediating role in the impact of SMEs' international marketing orientation on FTA performance.*

2.1.2. Relationship between CEO's Support, FTA Utilization and Performance

In order to expand the scope of the export market, the management should first establish an export management plan and allocate sufficient resources for exports (Kim Yong-Tae, 2014; Shamsuddoha and Ali, 2006). Since that top management can influence the fate of the company, CEOs will make concrete and active efforts to advance into the export market, as so to reduce the uncertainty within the company, thereby promoting efficient exports (Pettus, 2001). Since SMEs operate on a small scale, the development of enterprise mainly relies upon the awareness of the CEOs, the support from the CEOs is mainly related to investment, incentives, risk reduction, such positive input and support can improve export performance (Hwang Kyung-Yun, 2010; Kim Jae-Woo, 2014; Kim Yong-Tae, 2014; Shim Jae-Kwon, 2013).

However, the conclusion is rather different. In the highest operator support level, only from the operator characteristics to verify its impact on financial results, although there are FTA-related media variables, but the media variables are not counted as FTA activity (Kim Jae-Woo, 2014). Similarly, Kim Yong-Tae (2014) verified the active mediation effect of FTAs, and the proposed FTA export input for the management layer was not satisfactory for the results of FTA utilization and performance. Hwang Kyung-Yun (2010) also found that the support of top executives influences information technology competence. Small SMEs will change their development and growth according to their CEO's decisions, thoughts, and management. Therefore, the utilization of FTAs by SMEs depends on the intentions of the CEO and will play an important role in determining whether to use the FTA. In other words, when a CEO has a positive interest in utilizing an FTA, the FTA utilization of the enterprise will increase and will have a positive effect on the performance of the enterprise. It was analyzed that the positive attitude of management had a positive effect on export performance (Kim Yong-Gyu, 2008). In addition, the higher the export commitment of managers, the better the export performance of SMEs in the overseas market (Shim Jae-Kwon, 2013). Styles and Ambler (2000), on the other hand, argue that a lack of managerial commitment to export activity can negatively impact a company's export performance. Therefore, considering the mediation effect of utilization of FTAs, we set the following hypotheses.

H1-2: The support of CEOs of SMEs will have a positive effect on the utilization of FTAs.
H3-2: The support of CEOs of SMEs will have a positive effect on FTA performance.
H6-2: FTA utilization will play a mediating role in the impact of SMEs' top management support on FTA performance.

2.1.3. Relationship between Awareness of FTA, Utilization of FTA and Performance

For the utilization of FTAs, the reasons for the low awareness of FTAs among SMEs were more segmented in the previous studies. Primarily the lack of origin awareness and professionals, and insufficient FTA utilization information, with the increase of FTA awareness, FTA utilization and performance are improved (Kim Jae-Woo, 2014; Kim Yong-Tae, 2014; Park Cheol-Gu and Choi Jang-Woo, 2013; Shen Zhi-Feng and Kim Tae-In, 2016). At the level of the effect of research on FTA utilization and performance, cognitive variables are scattered and need to be integrated. Kim Tae-In and Li Jun-Jian (2014) and Park Cheol-Gu and Choi Jang-Woo (2013) verified the importance of FTA cognition to exports, however their studies lack reference to the mediation effect of FTA utilization. In the case of SMEs, there is a scarcity of skilled manpower and a poor understanding of FTAs due to poor resources (Cho Mee-Jin and Ahn Kyung-Ae, 2011). It was found that the perception of the need of management of origin, the procedure of origin, and the need for proof of origin have a positive effect on the utilization of the FTA (Park Cheol-Gu and Choi Jang-Woo, 2013). In the case of the impact of the FTA recognition factor on the FTA export utilization, it was confirmed that the export HS code and C/O issuance procedure recognition and FTA agreement tax rate recognition of the 15 items affect the FTA export utilization, the higher the FTA recognition showed that the more FTA export utilization increased (Kim Tae-In and Li Jun-Jian, 2014). According to empirical findings on the use of FTA in Shandong Province, China, FTA awareness has been shown to have a significant effect on FTA utilization and FTA performance (Shen Zhi-Feng and Kim Tae-In, 2015). In addition, according to the results of the actual research on the strategy of utilizing the FTA between Korea and China, the FTA awareness has a positive effect on the FTA utilization and FTA performance. FTA utilization has a mediating effect between international marketing orientation and FTA

performance (Shen Zhi-Feng and Kim Tae-In, 2016). Therefore, considering the mediation effect of utilization of FTA, we set the following hypotheses.

H1-3: SMEs' FTA awareness will have a positive impact on FTA utilization.

H3-3: FTA awareness of SMEs will have a positive effect on FTA performance.

H6-3: FTA utilization will play a mediating role in SMEs' FTA awareness affecting FTA performance.

2.2. Hypothesis about External Environmental Factor

2.2.1. The Relationship between Government Support for FTA Utilization, FTA Utilization and Performance

FTA utilization cannot be separated from the government's relevant support, and the government's FTA supporting research. Researchers have only formed a trend in recent years, and have verified that the government's support for FTA utilization will improve the FTA utilization of enterprises, and therefore, improve the export and export performance (Jung Hwan-Woo, 2013; Nam Phung-Woo and Choi Jun-Ho, 2007; Sohn In-Bum, 2015). However, the variables of government support are not clear enough, and for the current trading environment, it is necessary to fully verify the impact of government FTA utilization support on FTA activity and performance. Kim Yong-Tae (2014) verified the positive impact of government support on FTA utilization, but failed to effectively explain the role of the FTA utilization mediation effect. The Korean government is pursuing various support projects to enhance the utilization of FTAs, Among the supporting projects, the FTA support center plays a large role as a comprehensive support organization (Kim Yang-Jung, Kim Won-Nyeon and Lee Min-Joung, 2014). The independent variables were classified as external and internal variables. FTA costs have a significant negative impact on the utilization of the FTA. Government support has a significant positive impact on FTA utilization. Utilization of the FTA has a significant positive impact on economic outcomes (Kim Yong-Tae, 2014). Furthermore, to raise the FTA utilization rate, government support needs to be enhanced (Kim Jae-Woo, 2014). Therefore, considering the mediation effect of utilization of FTA, we set the following hypothesis.

H2-1: Government FTA utilization will have a positive effect on FTA utilization.

H4-1: Government FTA support will have a positive impact on FTA performance.

H7-1: The use of FTA will play a mediating role in the impact of government FTA utilization on FTA performance.

2.2.2. The Relationship between Non-Tariff Barriers and FTA Utilization and Performance

Non-tariff barriers generally have a negative impact on FTA utilization and performance, although in recent years, some scholars have put forward relevant research points, due to the lack of uniform standards for relevant variables, studies on non-tariff variables in the FTA activity are more limited (Jung Hwan-Woo, 2013; Nam Phung-Woo and Choi Jun-Ho, 2007; Sohn In-Bum, 2015). The research on the utilization and performance of FTAs, with the increase of relevant research in the field of tariffs, is gradually showing research needs for non-tariff factors such as SPS, TBT, intellectual property protection measures, and

inadequate investment improvement measures. Sohn In-Bum (2015) puts forward a new point of view on FTA funds, distinguishes other researchers, divides internal and external factors of the enterprise, but lacks the mediation effect of FTA's live use in the analysis of performance. In the case of the ASEAN-Korea FTA, the complaints of the origin verification and the confirmation procedure for the application of the preferential tariff as the obstacle of using the FTA were claimed (Nam Phung-Woo and Choi Jun-Ho, 2007). In this study, we investigated the method of solving this problem based on the prior research that the higher the strictness of the decision criteria of origin is, the lower the utilization is (Kim Moo-Han, 2010). It is pointed out that the discussions on tariff cuts and abolishment mostly take place in the Korea-China FTA negotiations, and discussions about high non-tariff barriers have been rarely made as a result of China's high non-tariff barriers (Jung Hwan-Woo, 2013). Due to differences in standards and certification systems, there is a great burden on companies entering the Chinese market for FTA live utilization and market expansion. There urgently needs to be standardized and appropriate certification procedures between the two countries (Choi Bo-Young et al., 2015). In addition, according to a study by Shen Zhi-Feng and Kim Tae-In (2016), the lack of non-tariff barriers mitigated the use of FTAs and FTA performance. It was found that there was a full mediation effect. Therefore, considering the mediation effect of utilization of FTA, we set the following hypothesis.

> H2-2: *The lack of mitigation of non-tariff barriers will have a negative impact on FTA utilization.*
> H4-2: *The lack of mitigation of non-tariff barriers will have a negative impact on FTA performance.*
> H7-2: *FTA utilization will play a mediating role in the impact of the lack of mitigation of non-tariff barriers on FTA performance.*

2.3. Relationship between FTA Utilization and Performance

Plenty of studies focus extensively on FTA utilization and performance with factors. Raising the utilization of FTA can effectively improve export performance (Hwang Kyung-Yun, 2010; Jung-Hwan-Woo, 2013; Kim Yang-Jung, Kim Won-Nyeon and Lee Min-Joung, 2014; Kim Jae-Woo, 2014; Kim Yong-Tae, 2014; Park Cheol-Gu and Choi Jang-Woo, 2013; Shim Jae-Kwon, 2013; Sohn In-Bum, 2015). While leading researchers have verified the effect of FTA activity on results, Jung Hwan-Woo (2013) and Park Cheol-Gu and Choi Jang-Woo (2013) do not adequately interpret the mediation effects of FTA utilization. This paper will combine the research purposes, make full use of the basic variables of the previous research and re-verify the conclusion of the research. Kim Yong-Tae (2014) put forward suggestions to improve FTA utilization for SMEs and analyzed the internal factors and external factors that have an impact on FTA utilization and performance. Also, expounded that FTA utilization has a significant positive impact on performance. Based on empirical studies related to FTA utilization capacity and export performance, it has been found that the ability to utilize FTAs has an impact on the export performance. In particular, it was confirmed that export immersion and marketing capacity have a significant effect on export performance (+) (Yoon Young-Ho and Na Do-Sung, 2013). Based on studies on the impact of FTA utilization on export performance, the government's FTA support policy, country of origin management capabilities, and FTA immersion in management have shown a positive impact on competitive advantage, and the competitive advantage has a positive impact on the economic and non-economic export performance of SMEs (Sohn In-Bum, 2015). Therefore, consi-

dering the mediation effect of utilization of FTA, we have set the hypothesis as follows.

H5-1: The FTA utilization of SMEs will have a significant impact on FTA performance.

3. Research Models and Research Methods

3.1. Research Model

Although previous studies contributed to the study of FTA utilization factors and performance, the factors involved were relatively segmental. In the current trading environment, when enterprises utilize FTA in imports and exports, they should consider both the internal and external factors affecting the utilization and performance of FTA. In order to effectively set up FTA Business Model and FTA living program for SMEs to put forward practical recommendations to improve the competitiveness of enterprises in import and export, it is important to grasp the impact factors of FTA utilization and performance of SMEs. This study overcomes the limitations of the previous research and integrates the current needs of the Korean-Chinese trade environment. This summarizes the FTA environmental factors (internal environmental factors of the company and the external environmental factors of the company) based on the existing theories of FTAs, and we aim to examine how these factors affect FTA utilization and performance. Based on the previous studies, we modified the factors accordingly to the status of the study. The research model of this study on FTA utilization and performance is as follows.

Fig. 1. Research Model
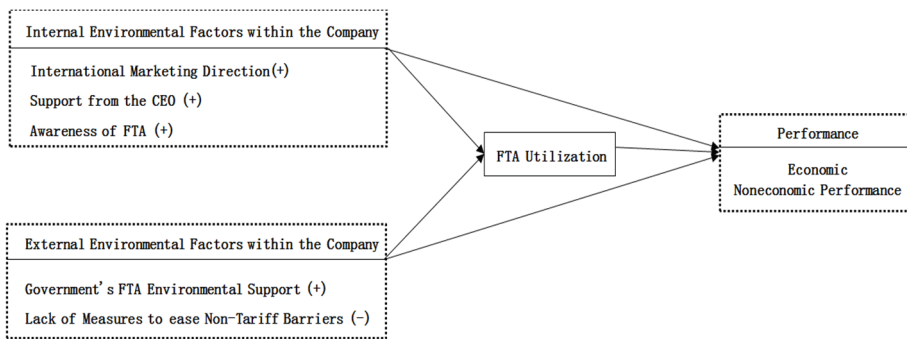
3.2. Data Collection and Analysis Methods

3.2.1. Surveying Subjects and Data Collection

In this study, questionnaires were developed based on the previous research. Through the Korea International Trade Association, we have acquired the list of SMEs, and have randomly selected samples from SMEs with FTA experience. The distribution and collection of questionnaires were mainly conducted by using telephone, Internet, and visits to SMEs and expos. The complete questionnaire return rate was 26%, 130 valid surveys were collected and used for the analysis from the 500 portions distributed. 123 among the 130 were used for the analysis.

As shown in Table 1, among the types of enterprises, machinery / electronic enterprises accounted for the largest, accounting for 33.3%, followed by automobiles and accessories / medical equipment accounted for 16%. SMEs with 10-30 employees accounted for the largest number of employees out of 123 valid questionnaires, followed by enterprises with less than 10, accounting for 41.5 per cent.

Table 1. General Characteristics of the Company

Number of Employees	Frequency	Percentage (%)
Under 10	51	41.5
10~30	60	48.8
30~50	12	9.8
50~300	0	0
Over 300	0	0
Industry		
Agricultural Fishery / Food	5	4.1
Cement	1	0.8
Chemistry / Cosmetics	12	9.8
Plastic / Rubber	8	6.5
Textiles / Clothing	9	7.3
Ore	2	1.6
Steel and metals	3	2.4
Machinery / Electronics	41	33.3
Cars & Components	20	16.3
Medical devices	20	16.3
Stationery	0	0
Wood	0	0
Others	2	1.6
(N=123)		

3.2.2. Data Analysis Method

This study used Smart PLS 3.0 statistical package to analyze data and test hypotheses. Numerous scholars have used PLS in empirical analysis (Chin, 1998; Vaara et al., 2014; Willaby et al., 2015). Since the number of samples in this study is more than 100 and the number of PLS samples is larger than that of Gefen et al. (2000), we decided that the number of samples for analysis is appropriate. In this study, while embracing the methodology of existing studies in variable measurements, we obtained the appropriateness of selecting PLS as a research analysis technique and utilized it.

3.2.3. Structural Definition and Composition of Variables

This paper is based on the previous studies, extracted suitable factors for this study, the structural definition and questionnaire structures are as shown in Table 2.

Table 2. Structural Definition and Composition of Variables

Variables (7 Point Linkert Scale)	Items of Measurement
International Marketing Direction	The degree of local distribution competitiveness of products, local sensitivity, local price competitiveness, and marketing activities.
Support from the CEO	The level of interest, investment, encouragement, and risk-taking of the CEO.
Awareness of FTA	Recognition of export goods HS code, import tariff rate of exporting countries, determination of origin, method of issuing certificate of origin (institutional issuance, autonomous issuance), business model, etc.
Government's FTA Environmental Support	Degree of support services to relevant organizations such as customs offices, SMEs, consulting services, trade associations, etc.
Lack of Measures to ease Non-Tariff Barriers	Technical Barriers to Trade (TBT), Sanitary and Phytosanitary Measures (SPS), The lack of mitigation measures for the application of intellectual property protection measures, investment (treatment of the national people, guarantee of free remittance, etc.)
FTA Utilization	Certificate of origin of raw materials, customs certification, verification of origin, and whether to build a business model
Economic Performance	The extent of the increase in exports due to the easing and abolition of tariff rates in the last five years and the easing of non-tariff measures (such as sanitary quarantine)
Noneconomic Performance	Comprehensive assessment of performance, including product awareness after FTA, increased understanding of the other countries' markets, and opportunities for industrial cooperation

Sources: Hwang Kyung-Yun (2010); Jung Hwan-Woo (2013); Kim Tae-In and Li Jun-Jian (2014); Kim Yang-Jung, Kim Won-Nyeon and Lee Min-Joung (2014); Kim Jae-Woo (2014); Kim Yong-Tae (2014); Nam Phung-Woo and Choi Jun-Ho(2007); Park Cheol-Gu and Choi Jang-Woo (2013); Shen Zhi-Feng and Kim Tae-In (2015/2016); Shim Jae-Kwon (2013); Sohn In-Bum (2015).

4. Empirical Results

4.1. Reliability and Feasibility Analysis

4.1.1. Concentration Feasibility and Reliability

Table 3 shows that the factor loading of each concept is greater than 0.7. Averaged Variance Extracted (AVE) was greater than 0.5 and Construct Reliability was 0.7 or more and The Cronbach's Alpha of this paper was more than 0.6, therefore the reliability is sufficiently high (Chin, 1998; Lee Hag-Sig and Im Ji-Hun, 2007). The confidence level and internal consistency of measurement variables are acceptable. It can be explained the factors have internal congruence, therefore, it is concluded that the convergence validity of the model is supported.

4.1.2. Feasibility of Discrimination

According to the evaluation results of the discriminant validity Table 4, the square root of the Averaged Variance Extracted($\sqrt{AVE}$) is larger than the correlation coefficient between

the respective constructs, and therefore the measurement tools of the research model was found to be valid (Barclay, Thompson and Higgins, 1995; Lee Hag-Sig and Im Ji-Hun, 2007).

Table 3. Result for the Reliability and Confirmatory Factor Analysis

	Factor Discretion	AVE	Composite Reliability	Cronbach's Alpha	R Square	Redundancy	Communality
A1	0.855						
A2	0.782	0.611	0.824	0.681			0.824
A3	0.701						
B1	0.708						
B2	0.935	0.714	0.881	0.804			0.881
B3	0.876						
C1	0.700						
C2	0.845	0.570	0.798	0.642			0.798
C3	0.711						
D1	0.862						
D2	0.965	0.758	0.925	0.909			0.925
D3	0.914						
D4	0.722						
E1	0.891						
E2	0.897	0.777	0.933	0.906			0.933
E3	0.856						
E4	0.880						
F1	0.775						
F2	0.807	0.598	0.817	0.664	0.253	0.2067	0.817
F3	0.738						
G1	0.814						
G2	0.885						
G3	0.893						
G4	0.782	0.684	0.938	0.922	0.420	0.3940	0.938
G5	0.760						
G6	0.836						
G7	0.811						

Note: A: International Marketing Orientation, B: FTA Awareness, C: Stands for the lack of Non-Tariff Barriers, D: Top Management Support, E: Government Support of FTA, F: FTA Utilization, G: Performance.

Table 4. Feasibility of Discrimination

	A	B	C	D	E	F	G
A	0.782						
B	0.322	0.845					
C	-0.054	-0.067	0.755				
D	-0.021	-0.021	0.073	0.871			
E	0.156	0.077	0.012	0.160	0.881		
F	0.270	0.359	-0.309	-0.153	0.080	0.774	
G	0.475	0.399	-0.261	-0.037	0.133	0.504	0.827

Note: The polygon value is the square root of the average variance extraction value (AVE).

4.1.3. Model Fit

Table 3 shows the fit of this study model is confirmed by the following three values.

First, the overall fitness index for the PLS path model is the redundancy[1] index of the Stone-Geisser Q^2 test statistic, which is 0.2067 for the endogenous FTA utilization and 0.3940 for the performance index. Second, the R^2 value of FTA utilization level and performance is 0.253 and 0.420, respectively, and it can be estimated that the PLS path model is suitable. [2]Third, the overall fit of the model was again found to be square root (0.798 >1) multiplied by the average R^2 value of all endogenous variables and the average value of communality (Chin, 1998; Choi Jong-Yeol, Chen Xuexue and Song Yun-Hee, 2014; Tenenhaus et al., 2005; Kim Gye-su, 2013; Woo Jong -Pil, 2012).

4.2. Verification of Research Hypothesis

4.2.1. Path Analysis

In order to verify the hypothesis in this study, the internal and external environmental factors of SMEs were used in the Smart PLS 3.0 analysis (Bae Byung-Ryu, 2015), thus enabled to show the path coefficients for FTA utilization and FTA performance. To verify the significance of the path coefficient, the significance of the path coefficients was derived from Smart PLS Algorithm and Smart PLS Bootstrapping was verified (Kim Gye-Su, 2013). (T) is >1.96 and the significance level is derived as p<0.05, therefore, it is possible to judge the significance of path coefficients and hypotheses (Woo Jong-Pil, 2012). The method proposed by Preacher and Hayes (2008) to use Bootstrap indirect effect test is a more rigorous media effect test than the Sobel test method. Smart PLS has Bootstrap indirect effect analysis functions, and this paper will use the Bootstrapping method to test media effects. Table 5 shows that without 0 between the upper and lower limits, the media effect can be judged to be significant (Bae Byung-Ryu, 2015; Baron and Kenny, 1986).

The direct effect of (B→F) on the results of the FTA utilization according to Table 5 shows that FTA awareness is positive (+) on FTA utilization (path coefficient=0.2843, p<0.05) The direct effects of (C→F) show that the lack of non-tariff barriers mitigates the statistical significance of the FTA utilization (path coefficient=-0.2729, p<0.05) Hypotheses H1-3, Hypothesis H2-2 were supported. In terms of the direct effect, (A→F) international marketing orientation (path coefficient=0.1518, p>0.05), (D→F) top management support (path coefficient=-0.1333, p>0.05), Hypothesis H1-1, Hypothesis H1-2, Hypothesis H2-1 were rejected since the effect of government FTA utilization (E→F, path coefficient=0.0596, p>0.05) was not significant.

Looking at the direct effect on the results affecting the performance (A→G) international marketing orientation has a significant effect (+) in the FTA performance (path factor=0.3211, p<0.05), the hypothesis that has a significant effect (path coefficient=0.3687, p<0.05) in accordance with the hypothesis H3-1 was adopted. Similarly, hypothesis H3-3, hypothesis H5-1 were supported that (B→G) FTA awareness and (F→G) FTA utilization have a positive effect on FTA performance.

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[1] Redundancy is similar to the determine coefficient (R^2) of the multi-regression analysis. The redundancy stands for overlap between groups of variables, and the average possibility of one variable to describe the variance of the other variables one by one. When evaluating the fit of the predictive model, it should be a positive number rather than a negative number. If the value is less than 0.125 and 0.125-0.375 is medium, it is higher than 0.375, Calculation formula: Number of redundancies = Communality×R^2,

[2] The predictive fit of the PLS path model according to the R^2 of the endogenous variable is determined to phase (0.26 or more), during (0.13-0.26), and the lower (0.02-0.13).

Table 5. Path Effect

	Total Effect	Direct Effect		Indirect Effect		
				Coefficient	Bootstrapping 95% Reliability interval	
		F	G		Confidence interval low	Confidence interval up
A → G	0.3687 (5.3820) †					
B → G	0.2607 (3.4534) ***					
C → G	-0.2233 (3.0992) **					
D → G	-0.0170 (0.1959)					
E → G	0.0613 (0.7817)					
A		0.1518 (1.9484)	0.3211 (4.3844) †			
B		0.2843 (3.4649) ***	0.1716 (2.4286) *			
C		-0.2729 (3.7550) ***	-0.1378 (1.8066)			
D		-0.1333 (1.2357)	0.0248 (0.3180)			
E		0.0596 (0.6934)	0.0426 (0.5825)			
F			0.3134 (3.8442) †			
A → F → G				0.0476 (1.5188)	-0.0007	0.1245
B → F → G				0.0891 (2.4793) *	0.0345	0.1784
C → F → G				-0.0855 (2.8057) **	-0.1640	-0.0337
D → F → G				-0.0418 (1.1274)	-0.1125	0.0367
E → F → G				0.0187 (0.6704) **	-0.0375	0.0683

Notes: 1. $*p<0.1$, $**p<0.05$, $***p<0.001$, $†P<0.000$.

2. ( ) t value.

On the other hand, looking at the direct effect (C→G) due to the lack of measures to mitigate non-tariff barriers (path coefficient =-0.1378, p>0.05), (D→G) support of the CEO (path coefficient=0.0248, p>0.05), (E→G) government FTA utilization support (path coefficient= 0.0426, p>0.05) hypothesis H3-2, hypothesis H4-1, H4-2 without a significant effect on FTA utilization were rejected.

In terms of mediating effects, since international marketing orientation did not positively effect on FTA utilization, the effects of international marketing orientation on FTA performance did not play a mediating role in the utilization of FTA, because international marketing orientation does not significantly affect FTA utilization. Similarly, FTA utilization does not play a mediating role in the impact of (support from the CEO, support from the government for the use of FTA) the performance of FTA and hypothesis H6-1, hypothesis H6-2 and hypothesis H7-1 were rejected.

According to Table 5, FTA awareness → FTA utilization → FTA performance shows that FTA awareness not only has a direct effect on FTA performance but also indirect effect. The indirect effect value was 0.0891 (0.2843×0.3134) and p<0.05, thus significant. Therefore, FTA utilization will play a mediating role in the effect of FTA awareness on FTA performance. In addition, statistically significant (partial) mediating effects were found according to the upper and lower limit values of confidence interval (0.0345, 0.1784). In other words, the higher the awareness of the FTA, the more the FTA will be used and the FTA performance will increase. Therefore, hypothesis H6-3 was supported.

Lack of mitigation measures for non-tariff barriers → utilization of FTA → lack of non-tariff barriers in FTA outcomes has no direct effect on FTA performance, but indirect effect (path coefficient=-0.0855, p<0.05). Therefore, FTA utilization will play a (perfect) mediating role in the impact of the lack of non-tariff barriers on FTA performance. In addition, the statistically significant mediating effect was valid according to the upper and lower limits of confidence interval (-0.1640, -0.0337). In other words, if the non-tariff barriers are insufficient, the FTA will not be used and the FTA performance will fall. Therefore, hypothesis H7-2 was supported.

4.2.2. Verification Result of Hypothesis

The supported and rejected hypotheses in this study model are summarized as follows.

Table 6 shows that Hypothesis H1-3, Hypothesis H2-2, Hypothesis H3-1, Hypothesis H3-3, Hypothesis H5-1, Hypothesis H6-3 and Hypothesis H7-2 were supported and the rest were rejected. According to Hypothesis H1-2 and Hypothesis H3-2, SMEs have limitations on various aspects such as size and funding compared with large enterprises. CEOs of SMEs may not have enough predictions about the utilization of FTAs as well as the lack of support due to the extra costs required, and they may have negative thoughts on FTA utilization. In addition, according to Hypothesis H2-1 and Hypothesis H4-1, the government provides SMEs with a lot of FTA utilization (education, consulting) and benefits, but the SMEs do not actually acquire the benefits. In order to receive support such as FTA consulting and education, the companies must have a certain number of experts with good FTA knowledge. However, it is difficult to secure professional manpower from the viewpoint of SMEs which have high workload but fewer employees. It can be interpreted that the government support does not affect much on the FTA utilization and performance due to limitations of SMEs that cannot fully utilize government support. According to Hypothesis H1-1 and Hypothesis H3-1, the international marketing orientation of SMEs did not have a significant effect on FTA utilization, but it showed a positive (+) effect on FTA performance. Thanks to the non-tariff barriers, companies often import and export directly, even if they do not utilize FTAs. Therefore, it can be seen that the higher the international marketing orientation, the greater the import and export benefits without FTA.

Table 6. Verification Result of Hypothesis

	Hypothesis	Result
H1-1	The international marketing orientation of SMEs will have a positive effect on FTA utilization.	Rejected
H1-2	The support of CEOs of SMEs will have a positive effect on the utilization of FTAs.	Rejected
H1-3	SMEs' FTA awareness will have a positive impact on FTA utilization.	Accepted
H2-1	Government FTA utilization will have a positive effect on FTA utilization.	Rejected
H2-2	The lack of mitigation of non-tariff barriers will have a negative impact on FTA utilization.	Accepted
H3-1	The international marketing orientation of SMEs will have a positive impact on FTA performance.	Accepted
H3-2	The support of CEOs of SMEs will have a positive effect on FTA performance.	Rejected
H3-3	FTA awareness of SMEs will have a positive effect on FTA performance.	Accepted
H4-1	Government FTA support will have a positive impact on FTA performance.	Rejected
H4-2	The lack of mitigation of non-tariff barriers will have a negative impact on FTA performance.	Rejected
H5-1	The FTA utilization of SMEs will have a significant impact on FTA performance.	Accepted
H6-1	FTA utilization will play a mediating role in the impact of SMEs' international marketing orientation on FTA performance.	Rejected
H6-2	FTA utilization will play a mediating role in the impact of SMEs' top management support on FTA performance.	Rejected
H6-3	FTA utilization will play a mediating role in SMEs' FTA awareness affecting FTA performance.	Accepted
H7-1	The use of FTA will play a mediating role in the impact of government FTA utilization on FTA performance.	Rejected
H7-2	FTA utilization will play a mediating role in the impact of the lack of mitigation of non-tariff barriers on FTA performance.	Accepted

Second, according to hypothesis H5-1, the more FTA is utilized, the higher the FTA performance will be. In order to apply to FTA preferential tariffs, companies are increasing their economic and non-economic performance by issuing originating certificate issuance, increasing exports, operating profit margin, and product awareness,

Third, Hypothesis H6-3 and Hypothesis H7-2 show that FTA utilization plays a mediating role in the effect of FTA awareness on FTA performance in terms of mediation effect of FTA utilization. This implies that the FTA utilization as a mediating effect will lead to the achievement of high FTAs awareness and performance.

The more companies are aware of the higher ratio of contents for FTA utilization (PSR fulfillment, C/O issuance method, HS code for product, tariff rate of concession etc.) the more FTA utilization performance (preferential tariff rate application, C/O issuance, originating certification exporter, FTA Certification, etc.) will improve. According to hypothesis H4-2, the lack of non-tariff barriers to mitigating the FTAs shows a significant negative correlation with the utilization of the FTA, but does not have a significant negative effect on the FTA performance. This is due to the utilization of FTAs has a significant mediating negative effect between FTA performance and the lack of mitigation measures. In other words, the lack of non-tariff barriers would not have a direct impact on FTA performance, but only through the utilization of FTAs. Therefore, as the non-tariff barriers are insufficient, the FTA will not be utilized, the FTA performance will also decrease. The more complex the trade technology barriers are, the fewer the intellectual property protection measures exist, the less FTA will be utilized, and the FTA performance will decrease.

Thoroughly looking through the result, according to hypothesis H1-3, Hypothesis H2-2, Hypothesis H3-3, the virtuous cycle between China and Korea on "Increasing FTA awareness, utilization and performance" appears to be the basic circulation. In other words, in order to increase FTA performance, it is necessary to increase utilization and increase awareness before FTA is initiated. First, to increase the utilization of FTA, a strategy to mitigate China's non-tariff barriers is needed based on hypothesis H2-2. Second, in order to increase the FTA performance, it is necessary to strengthen the international marketing orientation of SMEs according to hypothesis H3-1.

5. Conclusion

This study analyzed the internal and external environmental factors of Korean SMEs affecting FTA utilization and FTA performance.

From the theoretical aspects, it is shown that the recognition of FTA in small and medium-sized enterprises has a significant effect on FTA utilization and FTA performance. International marketing direction was found to have a significant effect on the performance of the FTA, and the lack of measures to ease non-tariff barriers has the effect of a significant wealth (-) on the utilization of the FTA. FTA utilization has been shown to have an effect of a significant amount of the FTA performance (+). FTA utilization has been shown to play a role in the impact of FTA awareness on FTA performance. It was found that the utilization of FTA plays a full role in the impact of the lack of measures to ease non-tariff barriers on FTA performance.

From the empirical perspective, the SMEs adept at tariff application procedures and tariff reduction rate will increase the FTA performance and utilization rate. When the non - tariff barrier mitigation measure is insufficient between the parties, the use of FTAs will fall.

Second, as the contents of the FTA (PSR fulfillment, C/O issuance method, HS code for the product, tariff rate of the product, etc.) are recognized higher, FTA application (application of preferential tariff rate, issuance of C/O, certification of exporter of origin, etc.) will result in higher FTA performance. In addition, the lack of non-tariff barriers will result in the failure of the FTA and the decrease in FTA performance. Companies wishing to make active entries into the FTA agreement with the target market should increase awareness of all the FTAs required for the C/O issuance process (PSR fulfillment, C/O issuance method, HS code for products and recognition on Bound Tariff Rates), and consider strategies such as raising the utilization rate of C/O issuance, certification of exporters, and establishment of an FTA business model. In conclusion, such FTA utilization could increase the FTA performance

(cost reduction, operating profit margin, export increase, understanding of other countries' market, product recognition and industry cooperation opportunities). For the government, Technical Barriers to Trade (TBT) of the FTA partner countries: technical regulations, standards, conformity assessment, certification; Application of Sanitary and Phytosanitary Measures (SPS); Policy contributions should be made to mitigate intellectual property protection measures (e.g. improving trademark application procedures, improving brand transparency, etc.).

Going slightly further to create an industry-specific FTA business model that includes customs or non-tariff usage strategies would be a great help for companies to get into the FTA targeting markets.

This study has significant implications in terms of empirical finding. However, it also has the following limitations. First, Korea-China FTA has been in effect for only a short period of time, nonetheless, it is helpful for the economic development in both countries. With the relaxation of time and non-tariff barriers, companies will make significant changes in export and import performance by utilizing FTAs. Even if there is no short-term achievement in the future research, long-term FTA utilization needs to be confirmed in order to understand the change in FTA performance. Second, despite the many efforts, it is difficult to obtain enough samples and classify the industries. For future research, specific regions and industries should be specified with sufficient samples for a more valuable research topic in the future.

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