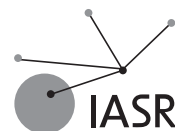




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Article

Market Shock and Export Competence: A Comparison of Korean Companies Before and After the COVID-19 Pandemic

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Abstract

The purpose of this study is to analyze export competitiveness according to market shocks. For the empirical analysis of this study, we examined the factors affecting the export competitiveness of Korean companies during the COVID-19 pandemic, which can be considered a market shock. To this end, we compared and analyzed the differences in factors between two contrasting market conditions, that is, a typical trade environment and an abnormal market condition such as the COVID-19 pandemic. The factors affecting export competitiveness consisted of human capital, export market orientation, and partnership management. The analysis results showed that normal market conditions, sales, human capital, export market orientation, and partnership management had a significant impact on export competitiveness. However, under market shock conditions such as the COVID-19 pandemic, company age, export market orientation, and partnership management were important factors. This study is meaningful in that it empirically compared and analyzed the factors affecting export competitiveness under the market shock situation of the COVID-19 pandemic and normal conditions for Korean companies.

Keywords

Export competence, Human capital, Export market orientation, Partnership management, COVID-19 pandemic, Market shock

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Introduction

Exports are an important driving force for the national economy and the starting point of corporate internationalization. Export performance not only contributes to increasing foreign exchange earnings but also plays an important role in national economic development and corporate management (İpek et al., 2023). Therefore, companies that have secured export competence in the global market are more likely to achieve sustainable management and access various opportunities. The global trade volume, which was disrupted by the COVID-19 pandemic in 2020, has recently recovered (Seong et al., 2024). Maintaining and improving export competence in a highly competitive environment due to changes in the global economy and trade environment has become an essential task for companies. For export companies to successfully compete in the global market, various factors interact in a complex manner (Paul & Dhiman, 2021). Among these, the management and utilization of corporate resources play a critical role in enhancing competitiveness and are considered one of the key determinants of export performance (Bari & Jayanthakumaran, 2021). Ultimately, companies face the challenge of managing and utilizing resources to adapt to market changes and maintain a sustainable competitive advantage. For this reason, many scholars have focused on the study of export firm performance and competitiveness improvement. Early studies mainly focused on internal factors such as capital and human capital and focused on efficient resource utilization (Munch & Skaksen, 2008; Subramaniam & Youndt, 2005). Later, the scope of research expanded to external factors such as international market trends and policy changes (Caglayan & Demir, 2014). Recently, the impact of technological innovation and digitalization on firm competitiveness has been explored (Liu et al., 2017; Perroni & Suverato, 2023). This indicates that the ability of firms to adopt and utilize new technologies has a significant impact on competitiveness. Despite these advances, market uncertainty and rapid changes in the external environment remain challenges for export firms to maintain competitiveness. In particular, market shocks such as the COVID-19 pandemic have shown that existing strategies require changes (Wang et al., 2024). This highlights the need for new strategic approaches that can respond more flexibly and quickly to crises. There is a great need to develop response strategies and effective export strategies in crises, but related research is still lacking, and the need for research is required.

Therefore, this study aims to empirically compare and analyze factors affecting the competitiveness of export companies from a resource-based perspective. We aim to empirically compare and analyze factors affecting export competence in two markets: the market conditions before the COVID-19 pandemic and during the pandemic. Through this study, we aim to answer the following questions:

What are the factors affecting the export competence of export companies? And are there differences in the factors affecting export competence between normal and abnormal market conditions? If so, what are the differences?

This study aims to provide new insights into how companies prepare for and respond to abnormal market environments by providing empirical comparative analysis results on areas that have not been sufficiently addressed in previous studies. And based on this, we propose a strategic approach. The results of this study can be used as strategic guidelines for sustainable growth and effective resource management of companies. It also aims to provide policy recommendations and provide directions and information for future related research.

Theoretical Background and Hypotheses Development

Export Competence

Exporting provides an opportunity to increase sales and profits through access to international markets and opportunities, thereby improving financial stability and providing the possibility of sustainable business in future markets (Seong et al., 2024). Ultimately, a company's internationalization through exports allows it to acquire information about foreign market competitors and consumer needs, escape the uncertainties of a single market, and access new opportunities in a wider market with more customers (Wickramasekera & Oczkowski, 2004). In empirical studies related to the export performance of Bangladeshi export companies, the level of human capital was found to enhance export competence and lead to stable exports (Bari & Jayanthakumaran, 2021). Similarly, a study using the export promotion data from Thailand's Ministry of Commerce showed that the competence and expertise of export intermediaries, such as export knowledge, negotiation skills, professionalism, and trustworthiness, positively influenced export performance (Suwannarat, 2016). Research on the relationship between export market orientation and export performance of small and medium-sized enterprises (SMEs) in Vietnam also found positive impacts, with results showing that export market orientation is a key indicator for maintaining and growing competitiveness in the market. Particularly for SMEs, which have limited resources and competence compared to large corporations, efficient resource management and strategic responses tailored to the market environment were crucial, and effective responses acted as factors in strengthening export competence (Safari & Saleh, 2020). A study of SMEs in Poland's furniture industry that successfully internationalized found that among the competencies of export companies, building and maintaining relationships with overseas customers, as well as partnership development and management, positively impacted export competence. The information and resources acquired in the market are internalized by the company, playing a crucial role in positively influencing export competence, and this internalized information and resources also positively impact company performance (Mitreğa, 2023). Collaborating with partners and sharing information to acquire market insights provides new business opportunities. Moreover, efficient access to resources and the reduction of market risks also result. In summary, high education levels and overseas market experience, as well as language abilities in human capital, are found to enhance a company's competitiveness. Furthermore, the level of business relationship capital strengthens access to and acquisition of information from foreign markets. Ultimately, the internal resources and competence that a company possesses are key positive factors for improving export competence and export performance. Various intellectual capital factors have a positive impact on innovation competence, enhancing the ability to absorb new technologies and generate innovative ideas (Subramaniam & Youndt, 2005). This ultimately influences creative problem-solving and product innovation positively. Additionally, the establishment and execution of a comprehensive export strategy and investment in export expansion foster a cooperative culture for exports within the company and encourage challenges and ventures into international markets. This cooperative corporate culture has a positive impact on the organization's tolerance for failure and its willingness to take on challenges in overseas market expansion. Relational capital makes it easier to acquire market information, gain deeper insights into customer needs, and positively influence marketing innovations and collaborative innovations with partners (Gutiérrez, 2023; Stoian et al., 2011). Therefore, this study defines export competence not as financial outcomes like current export volume or the number of trading countries, but as a company's capability to collect global market information, analyze opportunities, and develop and implement customized strategies to succeed in exports.

For this study, the influencing factors in determining export competence are based on the resource-based view and include the level of human capital, export market orientation, and partnership management.

Human Capital and Export Competence

From a resource-based perspective, firms achieve sustainable competitive advantage by adapting to external environmental factors using internal resources and competencies (Barney, 1991). Particularly, the dynamic competence theory combines with the resource-based view to explore how firms can flexibly respond to environmental changes, thereby achieving competitive advantages as a means of ensuring long-term survival and success. Such competitive advantages enable the continued accumulation and proper allocation of intangible assets, supporting sustainable business performance (Teece, 2007). Export management know-how and local market knowledge become embedded in human capital through learning and experience accumulation (Assadina et al., 2019). Therefore, all intangible resources held by exporting firms—export knowledge, negotiation skills, expertise, and trustworthiness—serve as critical assets that reduce transaction costs and enhance export competence (Suwannarat, 2016). Continuous exports and overseas market expansion are facilitated through networks with partners, which are transferred and learned by the exporting firms and accumulate within their human capital (Bari & Jayanthakumaran, 2021). This process creates a virtuous cycle that further strengthens export competence. Ultimately, human capital plays a crucial role in the competitiveness of exporting firms, which is evaluated based on the skills, expertise, and knowledge of export managers (Subramaniam & Youndt, 2005).

However, some studies on human capital reveal intriguing results. While export intensity and wages generally show a positive correlation, there are instances where the relationship is negative. High technological competence in firms increases export intensity and leads to higher wages. Conversely, in firms with lower technological competence, high export intensity can have a negative impact by resulting in lower wages (Munch & Skaksen, 2008; Perroni & Suverato, 2023). Production involves a wide range of activities such as management, accounting, administrative tasks, design, packaging, logistics, sales representation, operational production, input control, monitoring, supervision, and services. However, in non-engineering roles such as executives, directors, and administrative or managerial staff, high educational attainment and skill levels often have little impact on the physical output of exporting firms (Brambilla et al., 2019). While highly educated human capital is generally known to possess extensive knowledge and strong intellectual potential, enabling them to absorb and integrate technology effectively, research utilizing Chinese firms indicates negative effects on innovation and exports (Liu et al., 2017). In China's labor-intensive industries, highly educated personnel often fail to make a significant impact and may even negatively affect innovation. This suggests that highly educated personnel in exporting firms can have limited effects on exports and innovation.

Based on these prior studies, this research establishes the following hypotheses regarding the relationship between a firm's human capital and export competence:

H1: Human capital level acts as a positive (+) influencing factor on export competence.

Export Orientation and Export Competence

Efforts to collect market information and expand exports are considered influential factors for company performance, with export orientation being one of the key factors (İpek et al., 2023).

In this changing environment, export orientation has been used in various fields and studies by researchers (Gutiérrez, 2023; Harrison & Poee, 2022; Presutti et al., 2024; Stoian et al., 2011; Wickramasekera & Oczkowski, 2004). In a study conducted in the Australian winery industry, it was found that internationalization and export orientation had a positive impact on company performance (Wickramasekera & Oczkowski, 2004). A study using export performance data from Turkish SMEs also found that export orientation was a positive influencing factor for export performance (Acikdilli et al., 2022). These results suggest that companies that collect and utilize market information to adapt to market changes have developed the ability to understand consumer demands more effectively. Research on export orientation in Italian high-tech companies also found a positive impact on company performance (Presutti et al., 2024). These findings suggest that companies with human capital capable of monitoring and analyzing foreign markets continuously to identify opportunities and respond quickly experience better export performance (Gutiérrez, 2023). Furthermore, the manager's determination and efforts to expand exports have positively impacted export intensity and the increase in the number of foreign customers. In addition, the high market orientation, expressed through efforts to gather information on foreign markets, plays a role in expanding the scope and number of foreign markets. Long-term business strategies aimed at export growth, when formulated and implemented, also positively contribute to export performance (Safari & Saleh, 2020). A recent meta-analysis of 42 papers involving 11,518 companies also showed that market orientation positively impacts company performance improvement and export growth (İpek et al., 2023). From these findings, export orientation is conceptualized as a conscious effort by companies to collect market information and seize opportunities based on strategic efforts to explore opportunities in foreign markets (Harrison & Poee, 2022; Presutti et al., 2024; Stoian et al., 2011). Ultimately, the implementation of these efforts and determination accelerates a company's internationalization and has a positive impact on its performance (Acikdilli et al., 2022; Harrison & Poee, 2022; Stoian et al., 2011).

Based on previous studies, this research proposes the following hypothesis regarding the relationship between export orientation and export competence:

H2: Export orientation level acts as a positive (+) influencing factor on export competence.

Partnership Management and Export Competence

Partnership management can be defined as the process of acquiring and sharing a partner's knowledge smoothly and effectively to establish long-term, mutually beneficial relationships between the company and its customers. The core of partnership management is building trust and continuous interaction with customers through two-way communication, thereby creating a positive brand image. This enables companies to implement cost reductions and improve profitability, which in turn strengthens their competitiveness (Christopher et al., 2013). In this context, partnership management is not merely managing the relationship before it is established in the market, but rather maintaining and managing it continuously as the relationship evolves, and it is frequently used in relationship marketing strategies (Hennig-Thurau et al., 2002). Lack of information sharing and communication can prevent partners from gaining knowledge about each other's uniqueness and from building shared understanding and information on achieving mutual goals. Furthermore, the lack of information increases uncertainty in the inter-partner relationship, thereby raising the likelihood of managerial failure for the exporting company (Khalid & Bhatti, 2015). Export diversification reduces the volatility of export revenues, limits the negative impacts of external shocks, and promotes sustainable management (Hong, 2021). Thus, securing a diverse customer base acts as a positive factor for stable management.

Moreover, while market risks and supply chain disruptions, such as those caused by pandemics, tend to negatively impact most companies, a strong, competitive overseas supply chain positively influences corporate management. Close relationships with partners also reduce the potential for opportunistic behavior in the market and positively impact the company's competitiveness (Wang et al., 2024). Therefore, companies should strengthen their interdependence with partners and cultivate knowledge, technology, and competence through continuous communication on requirements. Various corporate characteristics and trust between partners are consistently studied, and close cooperation and information sharing for partners' business operations enhance trust in export-import relationships, benefiting corporate management (Skarmas et al., 2008). Thus, exporting companies need to make efforts to manage communication and build networks in terms of their relationships with partners. In this way, partnership management acts as a positive factor in expanding exports and performance, increasing competitiveness, and positively influencing sustainable management (Schreiner et al., 2009).

Based on previous studies, this research proposes the following hypothesis regarding the relationship between partnership management and export competence:

H3: Partnership management level acts as a positive (+) influencing factor on export competence.

Control Variables

From a resource-based perspective, the utilization of a company's internal resources and competence influences various factors mutually. Younger companies tend to have a higher dependency on *guanxi*, but for more mature companies, the reliance on *guanxi* tends to decrease. However, as the business duration increases, the value of the brand, reputation, and technological capability tends to rise (Park & Luo, 2001). Intangible assets such as knowledge and technology within a company are transferred from one member to another, and companies that have been operating for a longer period tend to accumulate a higher level of knowledge and technology as intangible assets compared to those that have been in business for a shorter time (Atkin et al., 2017). Therefore, larger companies tend to have a greater possibility of utilizing human and physical resources to solve various problems and challenges (Alteren & Tudoran, 2019; Boso et al., 2019; Stoian et al., 2011). Furthermore, their ability to form networks with other companies and leverage partnerships also increases (Mitręga, 2023). Consequently, smaller companies tend to have lower market response competence, which can negatively affect not only technological innovation and products but also management performance (Liu et al., 2017; Subramaniam & Youndt, 2005; Suwannarat, 2016). Additionally, larger companies, with higher export diversification and export variety, can reduce revenue volatility and limit the negative effects of external factors such as market shocks, promoting sustainable management (Assadinia et al., 2019; Hong, 2021; Nham & Bao, 2023). Based on these previous studies, this research sets the control variables as company age, number of employees, sales, and export volume.

Research Method and Measurement

Research Model and Variables

This study, based on existing literature, identifies the factors influencing the export competence of firms. The independent variables include the human capital possessed by export firms, export orientation, which is described as the willingness and effort to export, and partnership

management, which refers to the relationships with overseas partners and customers. Additionally, company age, company size, export volume, and sales are set as control variables.

The Firm's Export Competence (FEC) refers to the competence and knowledge required to have export competence in the global market. It encompasses the firm's physical, financial, and managerial resources and serves as an indicator of the firm's overall export ability (Gutiérrez, 2023). In this study, the level of export competence used was evaluated based on a 5-point scale of the firm's current export competence level. Among the independent variables, the level of human capital was evaluated using a 5-point scale to assess the firm's staff with export consulting skills in foreign languages and the level of employees with overseas degrees. Export orientation was evaluated based on the level of the firm's overall export strategy formulation and execution, the management and executives' willingness to expand exports, the effort made by employees to invest in export expansion, and the level of information collection for exploring overseas markets and customers. Partnership management was assessed based on the frequency of meetings with global customers (including face-to-face or remote meetings), brand awareness, the level of network building with customers, the level of export contribution from buyers, the competitiveness of buyers, and the level of customer acquisition compared to competitors. For control variables, the firm's age (calculated as the survey year minus the year of establishment), number of employees, sales revenue, and export volume were measured and used as the natural logarithms (ln) for analysis. The variables used in this study are shown in Table 1.

Research Sample

The data for this study were obtained from the Global Competency Level (GCL) Test conducted by the Korea Trade-Investment Promotion Agency (KOTRA). The GCL Test is a survey conducted for individual companies to provide recommendations for overseas marketing services and targets KOTRA-registered member companies. Survey responses were collected via the Internet and fax.

The survey period for the typical trade environment was from January to December 2019, before the COVID-19 pandemic. The survey period for the abnormal trade environment due to the COVID-19 pandemic was from January to December 2021. After excluding incomplete responses, the final data used for analysis consisted of 2,483 companies from 2019 and 1,912 companies from 2021. The characteristics of the surveyed data are shown in Table 2. In all measured values, the 2021 figures were slightly lower than those in 2019, indicating that the COVID-19 pandemic hurt the overall competence of the surveyed export companies in the export environment.

Table 1. Measurement of variables

	Classification	Abbreviation	Description
Dependent variable	Firm export competence	FEC	Firm's export competence
Independent variable	Human capital	HC	Firm's human capital
	Export orientation	EO	Firm's export orientation
	Partnership management	PM	Firm's partnership management
	Firm age	FA	Business period (ln)
Control variable	Firm size	FS	Number of workers (ln)
	Annual exports	AE	Annual export amount (ln)
	Annual sales	AS	Annual sales amount (ln)

Table 2. Characteristics of data

Classification		2019			2021		
Variable	Mean	Max	Min	Mean	Max	Min	
FEC	3.24	5	1	3.13	5	1	
FA	2.19	4.80	0	2.14	4.38	0	
FS	2.59	9.32	0	2.47	10.54	0	
AS	21.45	30.46	9.03	21.43	31.75	13.58	
AE	11.88	21.87	0	11.81	24.03	2.99	
HC	2.53	5	1	2.46	5	1	
EO	3.36	4	1.5	3.32	4	1.25	
PM	2.68	4.20	1	2.63	4.17	1	

Table 3. Reliability and factor analysis

2019					2021				
Variable		Component			Variable		Component		
Independent	Cronbach's α	Factor 1	Factor 2	Factor 3	Independent	Cronbach's α	Factor 1	Factor 2	Factor 3
PM6		.812	.177	.144	PM5		.823	.112	.052
PM5		.799	.130	.061	PM4		.797	.082	.066
PM4	.879	.799	.107	.059	PM6	.866	.779	.219	.159
PM3		.769	.235	.195	PM3		.748	.253	.212
PM2		.687	.085	.256	PM2		.674	.130	.199
PM1		.622	.358	.176	PM1		.559	.322	.229
EO3		.206	.759	.110	FO3		.203	.769	.062
EO2	.680	-.010	.727	-.013	FO2	.691	-.025	.753	.056
EO4		.476	.565	.057	FO4		.413	.607	.076
EO1		.456	.540	.147	FO1		.423	.547	.152
HC2	.695	.077	.070	.889	HC2	.730	.121	.054	.887
HC1		.302	.079	.802	HC1		.260	.147	.825
Eigen Value		3.961	1.976	1.634	Eigen Value		3.720	2.101	1.673
Pct of Var		33.012	16.471	13.616	Pct of Var		30.999	17.511	13.943
Cum Pct		33.012	49.483	63.099	Cum Pct		30.999	48.507	62.452
KMO (Eartlett's test of sphericity) 0.905 ($p < 0.001$)					KMO (Eartlett's test of sphericity) 0.890 ($p < 0.001$)				

Notes: 1. Convergence of factor rotation achieved after 5 iterations

Empirical Analysis

Factor Analysis and Reliability Analysis

The results of the factor analysis conducted to verify the construct validity and the reliability analysis to check internal consistency are shown in Table 3. First, principal component analysis was used as the factor extraction method, and the Varimax rotation method was applied.

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.905 for the 2019 data, and the significance probability p -value of Bartlett’s test of sphericity was found to be less than 0.001. For the 2021 data, the KMO was 0.890, and Bartlett’s test p -value was also less than 0.001. These results, with a KMO measure greater than 0.5 and a Bartlett’s test significance level below 0.1, indicate that the results of the factor analysis are valid. In the factor analysis for both 2019 and 2021 data, three factors were extracted, and the total variance explained by the extracted factors was 63.099% for 2019 and 62.452% for 2021. To check for common method bias, a post-hoc test using Harmon’s single-factor test was performed. The results showed that there were three factors with eigenvalues greater than 1, and that partnership management had the highest explanatory power in both 2019 and 2021 data. These results indicate that even if the extracted factor squared sums are classified as a single factor or more, if the explanatory power is absolute for one factor, this would contradict studies indicating the presence of common method bias. Therefore, it is concluded that there are no issues with common method bias in the data of this study (Podsakoff et al., 2003). The Cronbach’s α values for each independent variable in both groups were all above 0.6, meeting the acceptable level of reliability, and there were no issues with internal consistency in the variable measurements (Drost, 2011).

Correlation Analysis

Before testing the hypotheses, a correlation analysis among the measurement items used in the empirical analysis was conducted. The results for each group are shown in Tables 4 and 5.

To check for multicollinearity issues, the VIF (Variance Inflation Factor) values were examined. In the 2019 data, the highest VIF value of 3.891 was found between FEC and AS. In the 2021 data, the highest VIF value of 5.305 was found between FEC and AS. All other variables had lower VIF values compared to AS, indicating no multicollinearity issues among the variables.

Regression Analysis

This study conducted an empirical analysis of the relationships between the influencing factors on export competence before and after the COVID-19 pandemic. After selecting variables such as the level of human capital, export market orientation, and partnership management of exporting companies, multiple regression analysis was performed. The results of the multiple regression analysis for hypothesis testing are shown in Tables 6 and 7.

Table 4. Correlation analysis

2019	Mean	S.D.	1	2	3	4	5	6	7
FEC	3.24	1.06	1						
FA	2.19	.95	.052*	1					
FS	2.59	1.47	.078**	.592**	1				
AS	21.45	2.30	.117**	.566**	.776**	1			
AE	11.88	3.12	.225**	.430**	.574**	.740**	1		
HC	2.53	1.06	.230**	.239**	.540**	.442**	.489**	1	
EO	3.36	.53	.495**	-.024	.043*	.303	.122**	.282**	1
PM	2.68	.72	.666**	.108**	.179**	.212**	.399**	.407**	.613**

Notes: 1. * $p < 0.05$, ** $p < 0.01$

Table 5. Correlation analysis

2021	Mean	S.D.	1	2	3	4	5	6	7
FEC	3.13	1.04	1						
FA	2.14	.95	.123**	1					
FS	2.47	1.65	.121**	.598**	1				
AS	21.43	2.38	.143**	.594**	.855**	1			
AE	11.81	3.08	.227**	.443**	.618**	.741**	1		
HC	2.46	1.10	.287**	.246**	.557**	.509**	.515**	1	
EO	3.32	.53	.534**	-.027	.039	.034	.117**	.311**	1
PM	2.63	.69	.672**	.179**	.227**	.252**	.388**	.418**	.586**

Notes: 1. * $p < 0.05$, ** $p < 0.01$

Regression Model-1 ($F=37.335^{***}$, R^2 (adj. R^2)= $0.057(0.055)$) used data from 2019, before the COVID-19 pandemic, when there were no significant market shocks, to analyze the effects of the control variables FA, FS, AS, and AE on FEC. The annual sales (AS) of the company showed a negative (-) influence on export competence (FEC) at a significant level (Standard $\beta=-0.079$, $t=-2.067^{**}$, $VIF=3.818$). The company's annual export amount (AE) showed a positive (+) influence on export competence at a significant level (Standard $\beta=0.307$, $t=10.575^{***}$, $VIF=2.209$). FA and FS were found to have no significant effects within the significance level. Regression Model-2 ($F=300.321^{**}$, R^2 (adj. R^2)= $0.459(0.458)$) used the 2019 data from export companies to analyze the factors influencing export competence. As a result, the AS factor showed a positive (+) influence on FEC (Standard $\beta=0.056$, $t=1.911^*$, $VIF=3.891$). Generally, corporate competitiveness arises from the resources a company possesses, which correlates with the company's size. Increased sales can positively impact areas such as research and development, product production, sales, and exports. Interestingly, the relationship between HC and FEC was found to be negative (-) (Standard $\beta=-0.044$, $t=-2.268^{**}$, $VIF=1.754$). This result contradicts previous research, which suggests that HC acts as a positive influence (Assadinia et al., 2019; Bari & Jayanthakumaran, 2021; Barney, 1991; Subramaniam & Youndt, 2005; Teece, 2007). Therefore, the finding that human capital (HC) acts as a negative influence may be attributed to the limitations inherent in the GCL data.

While export intensity and wages typically show a positive correlation for export firms, previous studies suggest that for firms with low technological capability or those in industries with generally low technological intensity, high export intensity may be accompanied by negative effects, such as low wages (Munch & Skaksen, 2008; Perroni & Suverato, 2023). Generally, as the level of human capital increases, a company's innovation also rises. However, in cases where the workforce consists of office workers such as executives and administrative staff, rather than engineers directly involved in product production, an increase in educational levels may hurt corporate innovation (Liu et al., 2017). Additionally, in labor-intensive industries, research suggests that a highly educated workforce does not lead to positive effects in terms of competitive advantage or enhanced competence (Perroni & Suverato, 2023). Applying these negative findings to this study, the following results can be understood. First, the GCL data used in this study is comprehensive data of Korean export industries without distinction between industries or technological intensity. This limitation should be considered as the data represents the broad spectrum of export firms in Korea without separating specific industries or technology-intensive sectors. The level of export orientation (EO) was found to have a positive

Table 6. Regression analysis (2019)

Constructs Independent	Model 1			Model 2		
	β (SE)	Standard β (t-value)	VIF	β (SE)	Standard β (t-value)	VIF
C	2.877 (.280)	(10.278) ^{***}		-.336 (.239)	(-1.403)	
FA	-.023 (.027)	-.021 (-.855)	1.611	.008 (.021)	.007 (.381)	1.648
FS	-.018 (.023)	-.024 (-.757)	2.749	-.030 (.019)	-.041 (-1.555)	3.256
AS	-.036 (.017)	-.079 (-2.067) ^{**}	3.818	.026 (.013)	.056 (1.911) [*]	3.891
AE	.104 (.010)	.307 (10.575) ^{***}	2.209	-.011 (.008)	-.033 (-1.343)	2.684
HC				-.044 (.020)	-.044 (-2.268) ^{**}	1.754
EO				.279 (.038)	.139 (7.269) ^{***}	1.680
PM				.892 (.031)	.607 (28.951) ^{***}	2.010
F		37.335 ^{***}			300.321 ^{***}	
R ² (adj R ²)		.057 (.055)			.459 (.458)	

Notes: 1. ^{*} $p < 0.1$, ^{**} $p < 0.05$, ^{***} $p < 0.001$

Table 7. Regression analysis (2021)

Constructs Independent	Model 3			Model 4		
	β (SE)	Standard β (t-value)	VIF	β (SE)	Standard β (t-value)	VIF
C	2.723 (.368)	(7.392) ^{***}		-.625 (.297)	(-2.109) ^{**}	
FA	.063 (.031)	.058 (2.060) ^{**}	1.606	.062 (.023)	.057 (2.681) ^{**}	1.664
FS	-.003 (.028)	-.055 (-.123)	3.871	-.033 (.022)	-.052 (-1.508)	4.331
AS	-.037 (.022)	-.084 (-1.646) [*]	5.276	.010 (.017)	.024 (.624)	5.305
AE	.090 (0.11)	.267 (8.036) ^{***}	2.221	-.009 (.009)	-.025 (-.967)	2.557
HC				.007 (.021)	.007 (.314)	1.832
EO				.423 (.041)	.216 (10.279) ^{***}	1.634
PM				.821 (.034)	.547 (24.315) ^{***}	1.869
F		27.672 ^{***}			254.732 ^{***}	
R ² (adj R ²)		.055 (.053)			.484 (.482)	

Notes: 1. ^{*} $p < 0.1$, ^{**} $p < 0.05$, ^{***} $p < 0.001$

(+) influence on export competence (FEC) (Standard $\beta=0.139$, $t=7.269$ ^{***}, VIF=1.680). This indicates that companies that have developed the ability to respond to market changes through the establishment and implementation of long-term business strategies, and by collecting and utilizing market information, are better able to understand consumer demands (Acikdilli et al., 2022; Gutiérrez, 2023; Presutti et al., 2024; Wickramasekera & Oczkowski, 2004). Monitoring and continuous analysis of overseas markets help companies identify market opportunities and build the capacity for fast and successful responses. This capability is internalized through the transfer of knowledge among company members. Moreover, the management’s commitment and effort to expand exports have been shown in previous research to have a relatively strong impact on export intensity and the increase in overseas customers (Safari & Saleh, 2020). The level of partnership management (PM) also showed a positive (+) influence on FEC (Standard $\beta=0.607$,

$t=28.951^{***}$, $VIF=2.010$). Companies strengthen their interdependence with market partners and enhance their knowledge, technology, and competence through continuous communication and addressing their requirements (Schreiner et al., 2009). However, when there is a lack of information sharing and communication, partners may fail to acquire knowledge about each other's specifics, leading to increased risks arising from uncertainty regarding shared goals and problems (Khalid & Bhatti, 2015). Therefore, continuous interaction with customers and building trust contribute positively to strengthening competitiveness by creating a positive brand image, reducing costs, and improving profitability (Christopher et al., 2013; Skarmeas et al., 2008; Wang et al., 2024). Finally, the strength of the factors influencing export competence was found to be in the following order: $PM (0.607) > EO (0.139) > AS (0.056) > HC (-0.044)$.

Regression Model 3 ($F=27.672^{***}$, R^2 (adj. R^2)= $0.055 (0.053)$) analyzed the 2021 data, which corresponds to the COVID-19 pandemic period, a market shock, and assessed the impact of control variables FA, FS, AS, and AE on FEC. AS was found to have a negative (-) impact on FEC (Standard $\beta=-0.084$, $t=-1.646^*$, $VIF=5.276$), while AE had a positive (+) impact on FEC (Standard $\beta=0.267$, $t=8.036^{***}$, $VIF=2.221$). FA and FS were found to be insignificant at the required levels.

Regression Model 4 ($F=254.732^{***}$, R^2 (adj. R^2)= $0.484 (0.482)$) analyzed the impact of market shock, specifically the COVID-19 pandemic, on export competence using the 2021 data. The results showed that FA had a positive (+) impact on FEC (Standard $\beta=0.057$, $t=2.681^{**}$, $VIF=1.664$). Interestingly, unlike the 2019 data, AS and AE were not significant in 2021, but FA emerged as a significant factor. This result can be explained by previous studies as follows. Generally, the knowledge and competence possessed by a company's members are transferred, learned, and internalized by other members (Atkin et al., 2017). In companies that have been operating for a long period, compared to those with shorter operating histories, there is a higher likelihood that relatively high levels of knowledge and technology are internalized among members, which can contribute to the company's competence and competitiveness. Younger firms show higher dependence on relationships, but mature firms, which have sustained their business for a longer period, increase the value of their brands and their corporate reputation by utilizing internalized competence along with the importance of relationships (Park & Luo, 2001). Ultimately, during a market crisis, such as the COVID-19 pandemic, companies with long-term operations and internalized diverse competence are likely to have stronger export competence. The relationship between EO and FEC was found to be positive (+) (Standard $\beta=0.216$, $t=10.279^{**}$, $VIF=1.634$). This result aligns with previous studies, suggesting that market orientation is a positive factor influencing competence and export competence (Acikdilli et al., 2022; Gutiérrez, 2023; Presutti et al., 2024; Wickramasekera & Oczkowski, 2004). It proves that even during the increased threats and crises of the COVID-19 pandemic, establishing and executing business strategies for export growth is crucial. Companies that collect and utilize market information and are prepared to adapt and respond to market changes are more likely to achieve sustainable management. PM was also found to have a positive (+) impact on FEC (Standard $\beta=0.547$, $t=24.315^{***}$, $VIF=1.869$). This is consistent with previous research, which suggests that during the COVID-19 pandemic, when market threats and crises increased, maintaining continuous communication with partners through various means and sharing information helps build mutual trust and a positive image (Christopher et al., 2013; Schreiner et al., 2009; Skarmeas et al., 2008; Wang et al., 2024). By strengthening the competitiveness of partners, sustainable export competence can be enhanced. Other factors were found to be insignificant at the required levels. Finally, the strength of the factors influencing export competence was found to be in the following order: $PM (0.547) > EO (0.216) > FA (0.057)$.

Conclusions and Implications

Summary of Results

This study empirically compared and analyzed the factors influencing the export competence of export companies during two distinct market conditions: the COVID-19 pandemic period, which posed a significant threat and crisis to export markets, and a normal market situation without a major market shock or threat. To do this, the study utilized KOTRA's 2019 and 2021 Global Competency Level (GCL) Test data. Based on the resource-based view, the study selected independent variables such as human capital, export market orientation, and partnership management, and used company age, company size, annual sales, and export amount as control variables.

The two questions and answers proposed in this study are as follows: First Question: What are the factors influencing export competence in export companies? The empirical analysis of this study provides the following answer: In a normal market environment, as the size and sales of a company increase, so does its export competence. From a resource-based perspective, the source of competitive advantage for companies begins with internal resources and competence, which in turn drive company performance and sustainable management. In this view, the level of resources possessed by a company generally correlates with its size. Furthermore, maintaining costs related to the entire value chain of the company, from research and development to production, sales, and exports, also originates from the company's sales. Therefore, companies with higher sales and larger sizes are analyzed to have more power in maintaining and enhancing their export competence. Additionally, export market orientation and managing and securing global customers, such as partners, were found to have a positive impact on export competence. Export companies need to strengthen efforts for long-term business strategy formulation and investment for export growth. They should also enhance their ability to collect and analyze information through continuous monitoring to discover opportunities for finding overseas market customers. Moreover, they need to strengthen their competitiveness by building a positive brand image through ongoing interaction and trust-building with partners, which leads to cost reduction and improved profitability. Additionally, the study found that insufficient information sharing and communication with partners, which leads to operational uncertainty and risks due to each company's unique business characteristics, could also reduce such risks.

An interesting finding of this study is that the level of human capital in a company was analyzed as a negative factor for export competence in normal market conditions. This result is believed to stem from the specific nature and limitations of the data used in this study. The data analyzed in this study did not differentiate between the technological intensity and industry sectors of the companies. As a result, companies with low and high technological intensity, as well as the utilization of highly educated human capital in low and high technological sectors, were mixed and could not be controlled. Second Question: Are there differences in the factors influencing export competence in normal market conditions versus abnormal crises? If differences exist, what are the factors that differ? The answer to the second question is as follows: The management of internal resources, such as partnerships, and export willingness and effort (export market orientation) had a positive impact in both market conditions. However, in the normal market situation, sales and human capital levels were positively analyzed as influential factors, whereas during the market crisis, such as the COVID-19 pandemic, these factors did not show significant values. Instead, the duration of the company's business operation acted as a positive influence. This result suggests that in market shock situations, such as the COVID-19 pandemic, internal resources and competence accumulated through years of business operation,

including organizational processes, information, knowledge, and resources, become more critical in managing the risks of such a market crisis. Therefore, these internal resources and competence positively influence export competence, helping companies establish a competitive advantage and achieve sustainable operations during challenging market conditions.

Contributions and Implications

This study provides both empirical analysis and implications and academic contributions. First, previous studies tended to focus on the analysis of export company competitiveness in a single period, such as during the COVID-19 pandemic or in normal trade environments. In contrast, this study attempted an empirical comparative analysis of the factors influencing export competence in Korean export companies before and during the COVID-19 pandemic, two contrasting market conditions. Second, although the expansion of the research model is limited and the GCL data used has restricted applicability, this study utilized this data to explore export competence in both normal trade environments and during the COVID-19 pandemic. By using data that had been mainly employed for marketing consultation for Korean export companies in the industry sector, the study contributes to increasing the complementary value between academic and industrial fields. Through the empirical analysis, the study presents the following academic implications.

First, from a resource-based perspective, a company's competitiveness derives from the various internal resources and competencies it possesses. The formulation and implementation of an enterprise-wide strategy for exports positively influence export competence. In this regard, enhancing investment and effort for export expansion is essential. Company members, as the creators and maintainers of knowledge, skills, experience, and corporate culture, directly influence the achievement and enhancement of company goals. To strengthen export competence, it is necessary to improve the quality of export-specific human capital, such as foreign language proficiency and trade competence, as well as the ability to gather and analyze information about local markets. However, in business areas where high academic qualifications or advanced technical skills are not required, appropriate human resource allocation is crucial. Rather than using highly educated human capital, it is more important to make efforts to utilize human capital at the appropriate level to maximize its value efficiently. Proper allocation of human capital within the company will help reduce excess expenditures and increase efficiency. Furthermore, the government should use these analyses to prepare and strengthen policies for training and developing talents who can perform export and trade tasks, focusing on individuals with relatively lower educational levels and competence, rather than increasing business and financial expenditures concentrated on highly educated human capital. By enhancing the utilization of relatively underutilized human capital and fostering trade talent, the government could generate synergies that strengthen export competence in companies. This government focus and effort can positively impact efficient talent management and cultivation, as well as the enhancement of national competitiveness through improved export company performance. Second, from the perspective of export companies, effectively and continuously managing partnerships with customers or buyers becomes a significant source of competitiveness. While human capital within the company is an area that can be managed and controlled, global customers and buyers, while having close relationships with the company, are often not directly controlled, and their influence may not always be felt. The information and market influence possessed by a company's partners can be transmitted through information sharing and communication, and the level and scope of the information and knowledge exchanged depend on the nature of the relationship. Therefore, by increasing the frequency of communication and the level of network building with overseas partners, it is necessary to enhance the level of shared knowledge and information received from

partners. By utilizing this acquired information and knowledge as internal resources, export companies can enhance their export competence and further drive sustainable management and growth. Finally, in market shock situations such as the COVID-19 pandemic, the age of the company plays a significant role. Ultimately, when unexpected market conditions or shocks occur, the strength to overcome the market crisis and achieve sustainable management comes from the internal resources that the company possesses. To understand the source of competitive advantage, it is necessary to comprehend the complex and complementary relationships among various influencing factors, rather than focusing solely on the role of individual factors. From this perspective, continuous efforts to maintain and strengthen relationships with global market partners will internalize market information and knowledge, ultimately having a positive effect on strengthening corporate competitiveness.

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