

Factors affecting Vietnam's handicrafts export

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ABSTRACT

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With the rapid development of international business activities and internationalization, export plays an important role in the existence and growth of businesses. Handicrafts, despite not being an essential product, have always been rated as a potential product for sustainable development and export. In Vietnam, a country with a lot of long-existing traditional handicraft villages, the export of handicrafts has always been considered as an advantageous activity that largely contributes to the economy as well as the society. According to statistics from the Vietnam Handicraft Exporter Association, every 1 million USD worth of handicraft export creates profit 5 to 10 times higher than that of the exploitation industry; as well as provides work for three to five thousand employees. Despite this fact, in the last few years the handicraft export in Vietnam has been modest and not fulfilled fully to its potential. In comparison with other export products, the export turnover of handicrafts still accounts for a low proportion. Recognizing this issue, the present study developed a model to analyze the effects of some certain factors to the handicraft export activity in Vietnam. The results of this paper will contribute to current literature as well as propose some solutions to promote the handicraft export in Vietnam.

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1. Introduction

1.1 Literature on export activities

In today's integration process, export is defined as a basic form of international trading activity. According to Article 28 of Vietnam Commercial Law No. 36/2005/QH11, "Export of goods means the bringing of goods out of the territory of the Socialist Republic of Vietnam or into special zones in the Vietnamese territory, which are regarded as exclusive customs zones according to the provisions of law".

In the Statistical Yearbook of Vietnam 2015, the General Statistics Office of Vietnam clear stated that "Export of goods means bringing the whole value of goods out of the territory of the Socialist Republic of Vietnam for a certain period, export products are products originated in Vietnam and re-exported which are brought to foreign countries, leading to a reduction in domestic resources".

1.2 Literature on handicrafts

Handicrafts are a popular type of product and are being used widely around the world. There are various viewpoints on handicrafts such as (Cao, 2018; Dao, 2013):

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According to handicraft experts, handicrafts are the products of traditional villages, are solitary and aesthetic. Each product can be considered as a work of art with a manufacturing process complying with traditional technology; are usually sensitive to the market regarding types and quality; and are able to change manufacturing flexibly.

According to Bui Van Vuong (2002), handicrafts are known as traditional and unique high-quality products of each region, which are both goods and aesthetic, artistic and cultural products. They can even become national cultural heritages, which carry cultural features of the region or the nation where they come from.

According to the Vietnam Handicraft Exporter Association (VIETCRAFT), handicrafts are products with lots of variations which are traditional and unique to each region. They are at the same time goods, traditions, and fine arts, and can even become national cultural heritages, which carry cultural features of the region or the nation where they come from.

1.3 Characteristics of handicraft export

The characteristics of handicraft export are based on the general characteristics of export and the typical characteristics of handicrafts. In details:

(1) *Export market*: Handicraft exports usually take place in countries with rich culture and long tradition such as: Japan, China, India, or ASEAN countries like: Thailand, Indonesia, Vietnam, etc. (Koh, 2013), because of the combination between cultural features and skills of traditional artists, handicrafts in each market carry unique features, leading to different export characteristics in each market.

(2) *Various consumption markets*: Handicraft nowadays can meet not only various domestic demands but also international ones. However, handicrafts are different in each country because they carry the unique features of the villages and satisfy the typical cultural demands there, so each village aims for certain markets, especially the ones which care about the ethnicity and tradition of the products. Moreover, handicraft exporters also aim to market with changes in consumption trends like green consumption. Consumers are willing to buy and use environmentally friendly products and handicrafts are among their priorities. Thanks to the open-market policy, consumption markets for handicrafts are increasingly extended, especially to international markets, by means of export. To exist and develop, handicrafts therefore are required to be various in shapes, colors, patterns, and types.

(3) *Various technical barriers*: Developed countries such as Japan, the USA or EU countries are setting more and more criteria to import handicrafts, especially non-taxation barriers, to ensure product quality in their markets. Specific rules and barriers are very different among countries. For example, in America, all handicrafts must comply with LHAMA rules approved by the Examination Council, social responsibilities, and environmental issues. Besides, due to the diversity of usage purposes, quality control should be in accordance with not only the product standards, but also other rules regarding food contact, color contamination, chemical contamination, smell contamination, general contamination...

(4) *Product instability*: this is a unique characteristic in handicraft export. The reason can be that materials are affected largely by environmental factors such as weather, climate... or are imported from other countries; or it can be that the manufacturing is heavily traditional, seasonal, and not specialized. Therefore, it is a huge challenge in handicraft manufacturing to ensure sufficient supply in a short period of time. This instability lies not only in quantity but also in the quality of the products. The reason could be that the solitariness and handicraft of the products causes inconsistent quality in each product, which leads to lack of compliance in quality in comparison to samples sent to buyers. Moreover, each group of handicrafts are manufactured from different villages and regions with different methods, and materials can be different due to geographic and natural factors. This issue also directly affects product quality.

(5) *Difficulty in preservation and transportation*: Handicrafts are made from materials such as wood, rattan, bamboo which can easily be moist, musty, bended, or pottery and lacquer which can easily be broken and cracked. Moreover, the preservation, loading, unloading, and transportation of some large and bulky products should be paid careful attention to to ensure product integrity. Products should be packed firmly for long distances and carefully secured. This could lead to high preservation and transportation costs.

2. Factors affecting handicraft export

2.1 Subjective factors

Manufacturing input

Manufacturing factor in handicrafts includes materials, facilities..., in which materials are considered one of the most important factors affecting the handicraft manufacturing activity because materials play an essential role in creating values of handicrafts. Handicrafts with high values shall promote the export activities. Lack of materials could lead to insufficient products for large orders, and manufacturing disruption which then largely affects export activity. In contrast, with stable material supplies, exporters can access regular product supplies with high quality thanks to stable manufacturing. Therefore, handicraft exporters should pay attention to the quality and quantity of materials, distances between material zones, and material processing... because the quality and price of handicrafts largely depends on these factors.

In addition, facilities such as factories, machines, technology... are also a factor in exploiting the available potential of traditional villages. Facilities directly affect the manufacturing process, preservation, warehousing, and reservation of businesses. If exporters possess modern and sufficient facilities, they can ensure product quality, avoid product missing, avoid broken products, as well as improve their export activities.

Manufacturing labor force

To ensure business success, labor force is one the most important factors because this is the force that creates products and markets. Labor force in manufacturing and exporting handicrafts is considered the most important force in traditional villages, including artists, handymen, factory owners, and export businessmen. Handicrafts are specific because they are made from the skillful hands of artists. Therefore, artists are the key labor force to make unique and traditional products and to teach and pass the skills and methods to the next generation. With sufficient, skillful, competent, intelligent, hard-working, and creative labor force, the manufacturing and export of handicrafts should be promoted, and exporters can ensure product quality and manufacturing cycle which then creates business reputation.

Characteristics and capabilities of businesses

Chen et al. (2016) explained that characteristics and capabilities of businesses are an extremely important factor affecting their export activities and competitiveness. According to Nazar and Saleem (2009), these characteristics include business scale, export experience, international capability, and export market knowledge. Besides, Chen et.al, (2016) have added export planning and export market orientation as two important factors forming the characteristics and capabilities of businesses. A business with lots of international market experience and knowledge and good export planning shall improve its export efficiency.

In addition, financial potential is an indispensable factor in any business. A business can only proceed with its business and export activities when they have enough capital. Each business has its own financial potential. A strong financial source shall help a business to procure a large quantity of handicrafts quickly to sign big contracts with international importers. Another thing, with strong financial potential, a business can invest in expanding markets, connect closely with handicraft manufacturing entities, and participate in joint ventures to develop its export activities (Ebaidalla, 2015).

Competitiveness

In the context of strong international commercialization, competitiveness has become a top necessary issue, especially in countries' export activities. Export competitiveness shows the capabilities and advantages of a business in meeting to the fullest customers' requirements compared to international competitors which enables it to increasingly benefit from international markets (Nguyen, 2009). In fact, the higher the competitiveness is, the higher the ability to gain market share is, and this ensures sustainable development (Wong, 2013) for businesses. With highly competitive export products like handicrafts, the research of some suggested the competitiveness of a business means the creative ability to make a different, rare, irreplaceable, and hard to replicate products, so that it can adapt to changes in business environment and create sustainable competitive advantages. Besides, the research of Nguyen (2010) and Nguyen (2015) about the competitiveness of industries (which include handicraft industry) has also shown that creative ability plays an important role in improving the competitiveness of a business (Szydowski, 2008).

In addition, the improvement of competitiveness depends on the appropriateness of a business's marketing strategy regarding types, prices, communication, promotion, etc. to strengthen the reputation of the business in international markets and increase export turnover (Leonidou et al., 2013). When the communication and promotion of a business are well performed in the target market, its products should be more appropriate with the market, which then attracts lots of importers and helps improve competitiveness. Therefore, with handicraft exporters, these activities play an extremely important role in improving the competitiveness of a business in the target market.

2.2 Objective factors

Export barriers

According to Kahiya (2018), export barriers are considered a factor affecting export activities and usually in a preventive manner. Export barriers are reflected in import tax (taxation barriers) or non-taxation barriers of import countries. Regarding taxation barriers (usually import taxes): when a country increases its import tax, import goods prices will be higher, which reduces the competitiveness of import goods, then reduces export quantities from export countries. Regarding non-taxation barriers: these include trade technical barriers, hygiene measures, anti-subsidy, anti-dumping and self-defense, etc. These barriers affect export clearly when they are applied by more and more countries worldwide, especially developed countries. While taxation measures have a clear policy purpose, simple and clear way of implementation, the purpose of non-taxation measures are quite abstract, so countries (especially developed countries with experience in trading dispute) can make use of these measures to hamper the export of goods in general and handicrafts in specific.

Thus, the research results of Köksal and Kettaneh (2011) show that export barriers negatively affect the export activities of businesses.

Export support tools/policies from the State

This barrier is reflected in development policies of the government such as: exchange rate policy, export credit policy, trade promotion policy, loans with favorable interest rates, material support, procedure support, etc. These various policies have shown the important role of the State in promoting export. Theoretically, when the State supports businesses by the means of policies which encourage and promote export activities, businesses should find it easier to increase export quantities and perform export activities. The research of Harun et al. (2014) showed that policies from the State increase the export of wood products, including wood sculptures, while the research of Maulana and Suharno (2016) shows no effects.

Market openness

As mentioned above in this paper, developing an open economy has become the priority of a nation because of the trading benefit it brings. The openness is reflected in economic openness index, trading relationship between nations or the commitment to participate in international trading organizations, forums, and new generation free trade agreements. The openness and international integration of countries in the world affect trade and export promotion, enabling those countries to make use of comparative advantage through export and import. The theoretical research on gravity model (Anderson, 1979, 2010; Anderson & van Wincoop, 2003; Dlamini, 2016; Ngo, 2016; Ozdeser & Ertaç, 2010) of international trade and the experimental research of Konstantinos et.al, (2010) also showed the roles of bilateral and multilateral agreements in the export, import between two or more countries (Khiyavi, 2013; Krugman, 2005; Troy, 2014). The research of Konstantinos et.al, (2010) has summarized over 20 studies which have shown positive effect, negative effect, or no effect of bilateral and multilateral on export quantity between two or more countries. The research of Suresh and Mathur (2016) showed that FTA has increased the export of agricultural products between India and Sri Lanka. Therefore, the deeper the integration of a country is, the bigger the chance for businesses to promote their export based on comparative advantages and worldwide manufacturing network participation.

3. Overview of the situation of handicraft manufacturing in Vietnam

Looking at Fig. 1, in the period from 2011 to 2020, there were some changes in the increasing/decreasing trend. If from 2011 to 2014 and 2018 to 2020, there was a consistent rising trend, the period from 2015 to 2017 witnessed an increase in 2016 then a decrease in 2017.

In detail, the export turnover of handicrafts in 2011 was 592.9 million USD, then increased stably in the next two years, reaching 696.7 million USD in 2012 and 752.7 million USD in 2013. This growth was achieved thanks to the specific solutions put forward by the Ministry of Agriculture and Rural Development in the Scheme for Export of Handicrafts period 2010 – 2015, which promote the export of high added value handicrafts. However, in 2014, the figure started to fluctuate in the next three years until 2017. The figure went down to 868.4 million USD in 2015, then rose again in 2016 to 1.156 billion USD. However, it went down again in 2017 to 934.5 million USD. The reason for these reductions could partly be the reduction of orders from some big markets like Europe, America, Japan, etc. Another reason could be the lack of creativity and lack of investment in manufacturing technology for businesses, which led to lower competitiveness compared to the rising competitors such as Thailand, Philippines, Indonesia, etc. Especially in the period 2018 – 2020, the export turnover of handicrafts showed a significant growth. The reason for this explosive growth could be that the government has brought in a lot of policies to support the development of handicraft, typically the Prime Minister has approved and funded a program called “One Commune One Product” (OCOP) period 2018 – 2020.

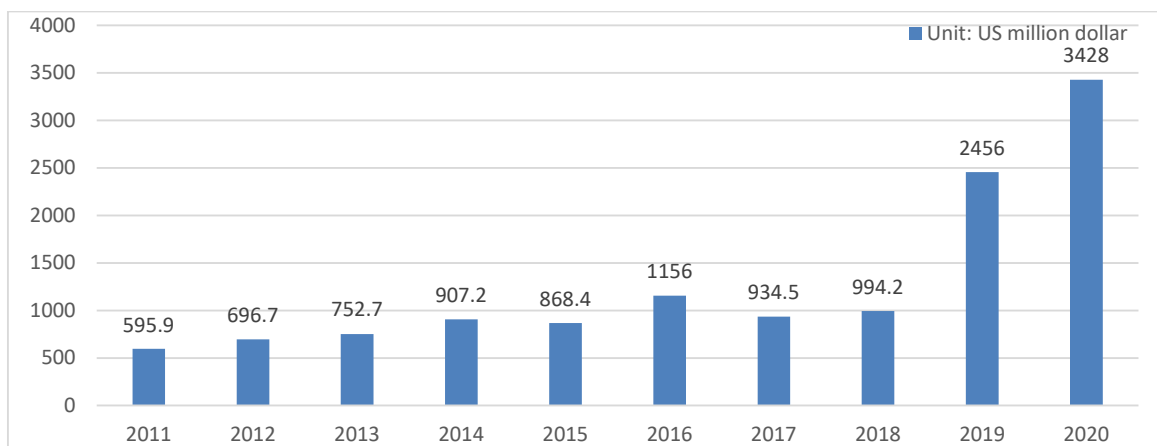


Fig. 1. Export turnover of handicrafts in Vietnam period 2011 – 2020

Source: Summarized based on online database of International Trade Center (ITC), calculated on the statistics of UN Comtrade (2021)

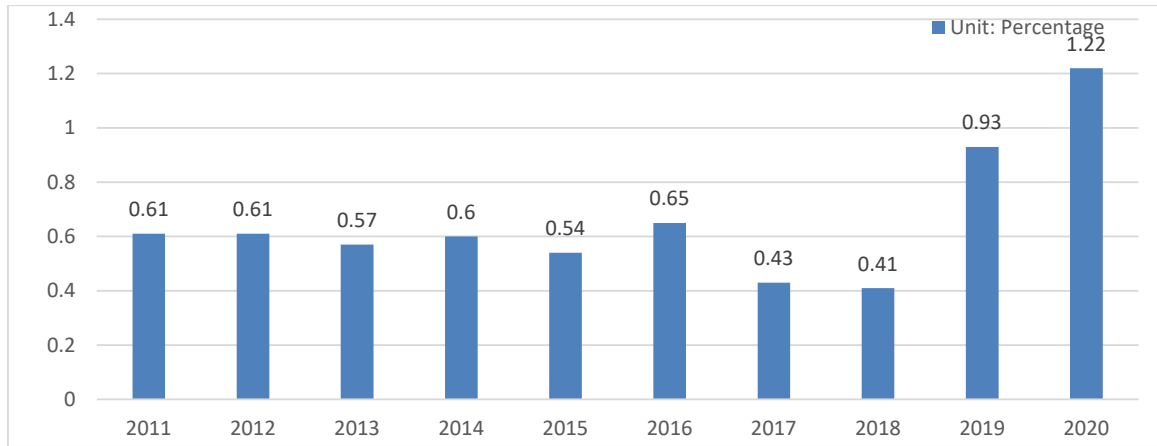


Fig. 2. Proportion of handicraft export value over total export value of Vietnam period 2011 – 2020

Source: Summarized based on online database of International Trade Center (ITC), calculated on the statistics of UN Comtrade 2021)

In the period from 2011 to 2020, the proportion of handicraft export turnover over the total national export turnover witnessed some changes in trend and value, especially in the last few years of the period. From 2011 to 2016, despite some minor fluctuations, the proportion of handicraft export turnover remained quite stable. In detail, the rate in 2011 and 2012 was 0.61%, went down a little in 2013 to 0.57%, then increased slightly to 0.6% in 2014. Then in 2015, it decreased again to 0.54% before going up back to 0.65% in 2016. In 2017 and 2018, there was a drop in the proportion to 0.43% and 0.41% respectively. However, in 2019, there was a huge growth in the proportion, which accounted for 0.93% over total national export turnover. Then especially in 2020, the proportion went over 1% to 1.22% for the first time. This was also the highest figure in the last 10 years. This showed some positive signs in the effort to promote handicraft export of businesses as well as the State.

Table 1

Export turnover of some Vietnamese handicrafts period 2011 – 2020

No.	Products	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
1	<i>Bamboo, rattan, sedge, and water hyacinth products</i>	Value (million USD)	156.19	162.72	178.32	193.84	197.49	195.96	207.58	231.34	280.81	302.15
		Proportion (%)	26.34%	23.35%	23.69%	21.37%	22.74%	16.95%	22.21%	23.27%	11.39%	8.81%
2	<i>Pottery</i>	Value (million USD)	359.24	440.5	471.08	514.35	477.03	431.35	461.06	486.61	527.75	565.03
		Proportion (%)	60.59%	63.22%	62.58%	56.70%	54.93%	37.31%	49.34%	48.95%	21.41%	16.48%
3	<i>Handicraft weave, lace embroider</i>	Value (million USD)	28.46	34.84	41.28	57.41	51.69	51.55	63.29	98.88	193.71	298.20
		Proportion (%)	4.80%	5.00%	5.48%	6.33%	5.95%	4.46%	6.77%	9.95%	7.86%	8.70%
4	<i>Wood sculpture</i>	Value (million USD)	17.25	19.24	19.91	27.70	26.27	32.15	26.89	30.85	30.28	43.24
		Proportion (%)	2.91%	2.76%	2.64%	3.05%	3.03%	2.78%	2.88%	3.10%	1.23%	1.26%
5	<i>Stone sculpture</i>	Value (million USD)	0.21	0.21	0.17	0.11	0.37	0.67	0.31	0.21	0.12	0.16
		Proportion (%)	0.035%	0.031%	0.023%	0.012%	0.043%	0.058%	0.033%	0.021%	0.005%	0.005%
6	<i>Artistic and lacquer painting</i>	Value (million USD)	0.55	0.74	0.63	0.73	0.67	1.05	2.15	2.39	3.88	4.16
		Proportion (%)	0.093%	0.106%	0.084%	0.080%	0.077%	0.091%	0.230%	0.240%	0.158%	0.121%
7	<i>Other handicrafts</i>	Value (million USD)	31.01	38.50	41.34	113.07	114.90	443.47	173.19	143.92	1.428.92	2.215.49
		Proportion (%)	5.23%	5.53%	5.49%	12.46%	13.23%	38.36%	18.53%	14.48%	57.96%	64.62%

Source: Summarized based on online database of International Trade Center (ITC), calculated on the statistics of UN Comtrade 2021

In the period from 2011 to 2020, pottery (Section 69 in HS system) and bamboo, rattan, sedge, and water hyacinth products (Section 46 in HS system) acted as the two key product groups, accounting the most in handicraft export turnover. This is partly because of the introduction of policies supporting the development of handicraft, i.e. Decision No. 11/2011/QĐ-TTg of the Prime Minister regarding bamboo and rattan product development encouragement, and Decision No. 11119/QĐ-BCT issued in 2014 approving the plan for pottery – industrial glass development until 2020, vision until 2030.

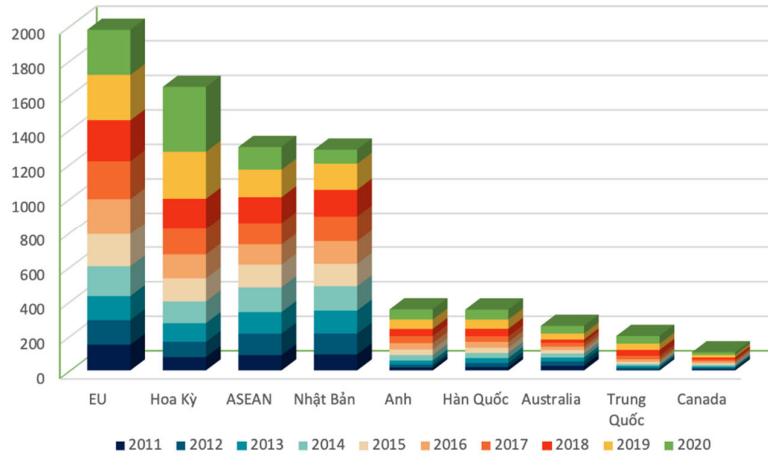


Fig. 3. Main export markets of Vietnamese handicrafts period 2011 – 2020

Source: Summarized based on online database of International Trade Center (ITC), calculated on the statistics of UN Comtrade 2021

Fig. 3 illustrates the export turnover into 9 biggest import markets of Vietnamese handicrafts from 2011 to 2020. These markets spread throughout the world, ranging from developing to developed countries, including two areas: EU and ASEAN, and seven countries: USA, Japan, UK, Korea, Australia, China, and Canada. The export turnover to all markets reached over 100 million USD for the whole period, in which the four markets: Japan, USA, EU, and ASEAN reached over 1.2 billion USD (Wang, 2015).

According to the statistics, EU (especially Germany, France, Netherlands...) was the biggest consumption market for Vietnamese handicrafts (Tran, 2012) with the export turnover of 1.98 billion USD, being followed by USA, ASEAN, and Japan with 1.65 billion USD, 1.29 billion USD, and 1.28 billion USD respectively. Clearly, export turnover to these 4 markets increased stably throughout the years. Even though these are traditional markets; they are also extremely strict markets regarding quality and types of handicrafts. The biggest increase witnessed in these markets belongs to the USA with a leap from 76 million USD in 2011 to over 375 million USD in 2020, about 5 times compared to 2011 figure. According to The Report of Handicraft Consumption Market in the USA 2021, American consumers started to pay more attention to the decoration and improvement of their houses with various handicrafts during the Covid-19.

4. Suggested research model of factors affecting handicraft export in Vietnam

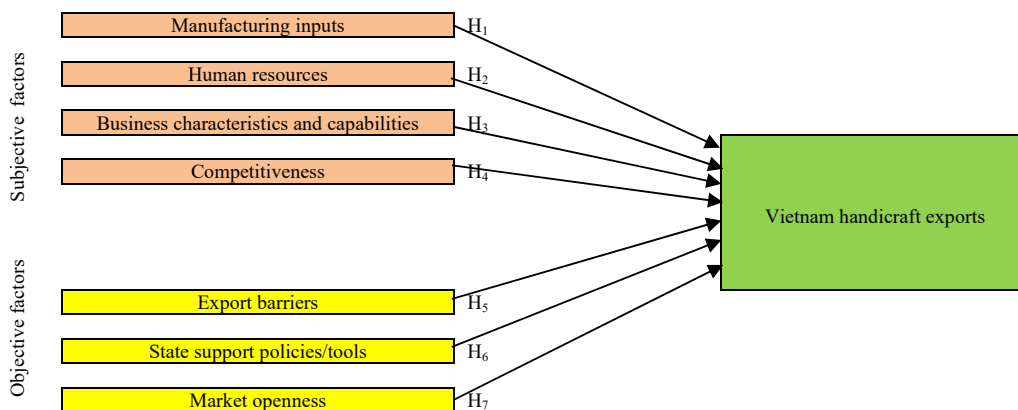


Fig. 4. Suggested research model

To perform the research, the authors conducted a survey and collected 50 samples. Then we put the collected data to analyze in SPSS and got the following results.

5. Research model calibration

Table 2

Summary of Cronbach's Alpha analysis

No	Factors	Initial variables	Remaining variables	Cronbach's Alpha	Deleted variables
1	Manufacturing inputs	5	5	0.808	0
2	Human resource	5	5	0.805	0
3	Business characteristics and capabilities	4	4	0.852	0
4	Competitiveness	5	5	0.863	0
5	Export barriers	4	4	0.897	0
6	State support policies/ tools	4	4	0.867	0
7	Market openness	3	3	0.876	0

(Source: calculated in SPSS by authors)

After Cronbach's Alpha analysis, no factor requires variable deletion before hypothesis analysis

5.1 Exploratory Factor Analysis (EFA)

Independent variables

After the first EFA, KMO & Bartlett's Test value being 0.720, with sig=0.000 shows that the EFA usage was appropriate. The Eigenvalue of 1.029, larger than 1, was extracted from all 7 factors (30 variables) with cumulative variance of 76.930% (larger than 50%). This proves that the extracted 7 factors can explain 76.930% variance of data.

The result of rotated matrix shows that the variables CT1, SP2, MI2, MI4 should be excluded from the model because their factor loadings were under 0.5, which means that they are not loaded in any factors; and variable HR2 should also be deleted because it was loaded in 2 factors and the loading difference was $0.588 - 0.505 = 0.083 < 0.3$. Factor loadings of the other 25 variables were eligible (larger than 0.5). Based on this result, the authors deleted 5 variables CT1, SP2, MI2, MI4, HR2, and performed the second EFA to witness if there is any change in the rotated matrix.

The second KMO & Bartlett's Test results showed that $0.5 \leq \text{KMO} = 0.769 \leq 1$, showing that EFA was accepted with the new set of variables. Sig Bartlett's Test = 0.000 < 0.05 means that the EFA was appropriate.

The Eigenvalue of 1.215, larger than 1, was extracted from 6 factors. The cumulative variance was 76.266% (larger than 50%), meaning that the EFA was appropriate because 6 extracted factors can explain 76.266% variance of variables.

The results of rotated matrix showed that variable SP4 should be deleted because it was loaded in 2 factors and the loading difference was $0.575 - 0.532 = 0.043 < 0.3$; and variable HR1 should also be deleted since the loading was smaller than 0.5, meaning that it was not loading in any factor. The loadings of the other 23 variables were eligible (larger than 0.5). Therefore, the authors continued to delete 2 variables SP4 and HR1 and performed EFA for the third time to witness changes in the rotated matrix.

The third EFA results showed that $0.5 \leq \text{KMO} = 0.781 \leq 1$, meaning that the EFA was accepted. Sig Bartlett's Test = 0.000 < 0.05, meaning that the EFA was appropriate.

The Eigenvalue of 1.194, larger than 1, was extracted from 6 factors. The cumulative variance was 78.105% (larger than 50%), meaning that the EFA was appropriate. 6 extracted factors can explain 78.105% variance of variables.

The results of the rotated matrix showed that 23 variables were loaded in 6 factors with factor loading all larger than 0.5.

Dependent variable

The KMO & Bartlett's Test results showed that $0.5 \leq \text{KMO} = 0.781 \leq 1$, meaning that the EFA was accepted. Sig Bartlett's Test = 0.000 < 0.05, meaning that the EFA was appropriate.

The Eigenvalue of 2.368, larger than 1, was extracted from 1 factor. The cumulative variance was 78.949% (larger than 50%), meaning that the EFA was appropriate. 1 extracted factor can explain 78.949% variance of variables.

Based on the results of EFA and rotated matrix, the authors decided to use 6 independent factors and 1 dependent factor in our model.

5.2 Pearson Correlation Analysis

From Table 3, the significant values of all 6 factors against EA were under 0.05, meaning that all 6 independent variables are correlated with the dependent variable. Moreover, the Pearson correlation values even showed the reliability of 99%. Therefore, the authors deduced that there are linear correlations between the dependent variables and independent variables.

Table 3
Correlation matrix between dependent variables and independent factors

		SP	CT	CC	EB	HR	MI	EA
SP	Pearson Correlation	1	.620**	.643**	.509**	.486**	.556**	.808**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000
	N	50	50	50	50	50	50	50
CT	Pearson Correlation	.620**	1	.503**	.458**	.466**	.481**	.719**
	Sig. (2-tailed)	.000		.000	.001	.001	.000	.000
	N	50	50	50	50	50	50	50
CC	Pearson Correlation	.643**	.503**	1	.394**	.456**	.374**	.694**
	Sig. (2-tailed)	.000	.000		.005	.001	.008	.000
	N	50	50	50	50	50	50	50
EB	Pearson Correlation	.509**	.458**	.394**	1	.240	.483**	.709**
	Sig. (2-tailed)	.000	.001	.005		.093	.000	.000
	N	50	50	50	50	50	50	50
HR	Pearson Correlation	.486**	.466**	.456**	.240	1	.330*	.643**
	Sig. (2-tailed)	.000	.001	.001	.093		.019	.000
	N	50	50	50	50	50	50	50
MI	Pearson Correlation	.556**	.481**	.374**	.483**	.330*	1	.649**
	Sig. (2-tailed)	.000	.000	.008	.000	.019		.000
	N	50	50	50	50	50	50	50
EA	Pearson Correlation	.808**	.719**	.694**	.709**	.643**	.649**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000
	N	50	50	50	50	50	50	50

(Source: calculated by authors in SPSS 20)

5.3 Linear regression model

Linear regression was used to determine whether there is a linear correlation between the factors and the handicraft export in Vietnam as well as how important each factor is (Gujarati, 2003). The linear regression was conducted with 6 independent variables: Export Support (SP), Competitiveness (CT), Business Characteristics and Capabilities (CC), Export Barriers (EB), Human Resources (HR), Manufacturing Inputs (MI), and 1 dependent variable: Export Activities (EA). The regression model was performed using Population Regression Function (PRF) in SPSS 20 software.

The β standardized regression model was:

$$EA = \beta_1 SP_1 + \beta_2 CT_2 + \beta_3 CC_3 + \beta_4 EB_4 + \beta_5 HR_5 + \beta_6 MI_6 + e$$

where $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6$ are coefficients, and e denotes the error term.

5.4 Appropriateness evaluation

Adjusted R-square was used to evaluate the appropriateness of the regression model with the data, the higher the adjusted R-square, the better the model. The adjusted R-square = 0.903, meaning that the model is highly meaningful which can explain 90.3% the correlation between variables.

Table 4
ANOVA results

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	14.251	6	2.375	66.811	.000 ^b
1 Residual	1.529	43	.036		
Total	15.780	49			

a. Dependent Variable: EA

b. Predictors: (Constant), MI, HR, EB, CC, CT, SP

(Source: extracted from SPSS 20)

The F-value from the above table was 66.811 with extremely small significant value of 0.000, meaning that the regression model is appropriate.

Table 5
Regression model

Model	Unstandardized Coefficients		Coefficients ^a	t	Sig.	Collinearity Statistics	
	B	Std. Error	Standardized Coefficients Beta			Tolerance	VIF
(Constant)	.334	.180		1.858	.070		
SP	.179	.056	.241	3.184	.003	.393	2.543
CT	.118	.050	.152	2.335	.024	.534	1.874
1 CC	.129	.049	.167	2.606	.013	.546	1.831
EB	.179	.032	.323	5.511	.000	.657	1.523
HR	.185	.042	.255	4.458	.000	.690	1.450
MI	.090	.039	.139	2.307	.026	.618	1.617

a. Dependent Variable: EA

With significant value all under 0.05, the independent variables: SP, CT, CC, EB, HR, and MI have statistical meaning in the model, which means there are relationships towards handicraft export in Vietnam.

The regression equation is as follows:

$$EA = 0.241 \times SP + 0.152 \times CT + 0.167 \times CC + 0.323 \times EB + 0.255 \times HR + 0.139 \times MI$$

In which:

- EA: Dependent variable: Handicraft export activities
- SP: Independent variable: Export support
- CT: Independent variable: Competitiveness
- CC: Independent variable: Business Characteristics and Capabilities
- EB: Independent variable: Export Barriers
- HR: Independent variable: Human Resources
- MI: Independent variable: Manufacturing Inputs

From the above results, the suggested research model was adjusted as follows:

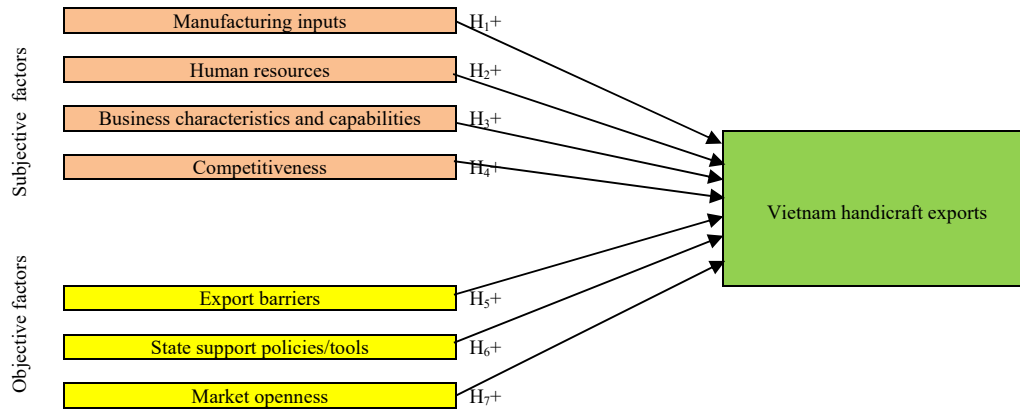


Fig. 5. Adjusted research model

5. Conclusion and recommendations

5.1 Manufacturing inputs

The regression coefficient of manufacturing inputs is 0.139, meaning that when manufacturing inputs increase 1 unit, handicraft export activities will increase 0.139 units. This positive value shows that there is a positive relationship between manufacturing inputs and handicraft export activities. In this research model, the impact of the manufacturing inputs is lowest despite the positive effect. This means that manufacturing inputs such as bamboo, rattan, stone, silk, fiber, etc. only have some minor effects on the export. The reason could be that Vietnam has always been a country with a sufficient amount of these natural resources.

5.2 Human resources

The regression coefficient of human resources is 0.255, which means that in this research, human resources have a positive impact on Vietnam handicraft export, or in other words, the more available the human resources, the more efficient the export.

The coefficient for human resources is the second highest among all factors, which is because Vietnam handicrafts are mostly made by hand by local laborers, not by modern manufacturing technologies. Therefore, the ability to apply high technologies of these labors largely affects the export in a positive manner. Besides, handicrafts always require creativity and innovation, thus a creative human resource means higher product value as well as higher international competitiveness. As a result, handicraft exports become more efficient. Thus, to promote handicraft export in Vietnam, a business should invest in developing an active young human resource.

5.3 Business characteristics and capabilities

The regression coefficient of CC is 0.167. This means when CC increases by 1 unit, the export activities variable will increase by 0.167 units. The positive sign of this coefficient means this factor positively affects the handicraft export activities, or in other words, the better the business characteristics and capabilities, the more efficient the handicraft export activities.

In this research, the effect of business characteristics and capabilities on handicraft export is not the highest, which suggests that this factor is only a minor premise for export activities to be efficient. Besides, the efficiency of handicraft export activities is affected by a lot of more important factors.

5.4 Competitiveness

The regression coefficient of competitiveness is 0.152, which means when CT increases by 1 unit, the export activities variable will increase by 0.152 units. The positive sign of this coefficient means this factor positively affects the handicraft export activities.

However, in this research, this factor is the one with the second lowest effect on handicraft export activities despite the fact that prices, supplies, design capabilities... are all necessary to be paid attention to when a business promotes its export. This suggests that, even though competitiveness is one of the factors that help promote export, there are more objective external factors that can affect the export activities (Roostika et al. 2015).

5.5 Export barriers

The regression coefficient of export barriers is 0.323, which means it has a positive effect on Vietnam handicraft export activities. This is also the factor with the highest coefficient, which means a change in export barrier could lead to a significant change in handicraft export.

Export barriers, especially non-taxation barriers, are applied widely by countries to limit the free flow of goods worldwide, and at the same time to protect domestic manufacturing, especially young manufacturing industries. This affects almost all export products and handicrafts are no exception. Therefore, the results of this research may correspond with the current international trade context.

5.6 Export Support

The regression coefficient of export support is 0.241, meaning that when SP increases by 1 unit, the export activities variable will increase by 0.241 unit. The positive sign of this coefficient and the high value of it suggest that it should be more convenient for export activities with the introduction of effective support from the State.

The determination of the importance of support policies and tools play an important role in bringing in new policies to promote handicraft export in Vietnam.

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