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The Differences in the Competitive Advantages of Construction Firms in Hanoi

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Abstract
Competitive advantages are factors that help a firm stand out from other firms operating in the same industry. When firms possess this advantage, they can gain a strong foothold in the hearts of consumers, which helps them operate more profitably. In addition, firms can maintain their foothold and position, exist for a long time in the market as well as in the hearts of consumers, and help firms stand out from their competitors. This study was conducted with the aim of assessing the competitive advantages of construction firms in Hanoi through survey results. The survey subjects are employees of construction firms in Hanoi. We use both qualitative and quantitative research methods. Quantitative research methods were carried out with SPSS software, including independent T tests and ANOVA. Research results show that there is no difference in assessing the competitive advantages of construction firms in Hanoi between different subjects in terms of gender, job position, or work experience. Based on this result, the study proposes some recommendations for construction firms and employees.

Keywords: Difference, Competitive Advantage, Construction Firms, Construct, Business Performance

JEL Codes: D49, M19, M21

1. Introduction

Competitive advantages are factors that help a firm stand out from other firms operating in the same industry. When firms possess this advantage, they can gain a strong foothold in the hearts of consumers, which helps them operate more profitably. In addition, firms can maintain their foothold and position, exist for a long time in the market as well as in the hearts of consumers, and help firms stand out from their competitors.

From the end of 2019 to the beginning of 2022, due to the strong outbreak of the COVID-19 epidemic, many localities, including Hanoi, were forced to implement social distancing. Most of the projects in the isolated localities had to stop construction. Projects located outside the distanced area are delayed due to disruptions in the supply of materials and human resources. Economic losses for construction firms are most clearly seen in the costs to maintain the apparatus, prevent the epidemic, and mobilize resources after the lockdown.

According to Vu *et al*. (2023) [10], recruitment in the construction industry is facing difficulties; many businesses even have to go to the mountains to recruit. 70% of the workforce in this industry is seasonal, often easy to recruit in previous years from localities such as Thanh Hoa, Thai Binh, Nam Dinh, etc. However, after COVID-19 and especially the welfare regime, the profit of the construction industry has decreased in recent years (many companies have not been able to afford the 13th month salary due to difficulties and low wages in the industry), and many people do not want to leave their hometown to work. In addition, the latest report of the Ministry of Construction earlier this year said that in 2022, the number of enterprises declaring bankruptcy or dissolution would increase by 38.7%. In addition, many firms have to stop or postpone investment activities, project construction, IPOs, etc. Therefore, improving competitive advantage is one of the methods to help construction firms reduce difficulties.

Despite losing its growth momentum before the pandemic, Vietnam's construction market is still a bright spot in the Asia-Pacific region, forecast to grow by more than 8.71% in the period 2022–2027 (Phan Nam, 2022) [7]. Therefore, construction firms with good competitiveness and competitive advantages will have many opportunities in the production and business processes.

2. Literature Review

The competitive advantage theory of Porter (1985) [8] approaches it from the perspective that competitive advantage arises from the value that the firm brings to the buyer; this value must be greater than the cost that the firm spends. Value is what buyers are willing to pay, and a higher value occurs when a firm offers comparable utilities but at a lower price than competitors or offers unique add-ons and the buyer remains satisfied with a higher-than-usual price.

Competitive advantages are attributes of an organization that attract customers; they are potential points of difference between an organization and its competitors. Competitive advantage includes the capabilities that allow an organization to differentiate itself from its competitors and is vital to the organization's survival (Li *et al*., 2006) [6].

Dagnino *et al*. (2021) [3], Ali and Anwar (2021) [1], identify competitive advantage factors that describe an organization's ability to satisfy customers, including price, product quality, product line breadth, order fill rate, order lead time, order information, and delivery frequency. An organization must have a low enough base cost to charge a price comparable to that of a competitor, or the products offered must be of higher value than the competition in order to command a higher price. Product quality and diverse product lines must meet or exceed customer expectations. The organization should have high order fill rates, short order cycle times, accurate order and delivery information, and regular deliveries. These capabilities will enable companies to achieve high levels of customer satisfaction and market efficiency.

Azeem *et al*. (2021) [2] used a response scale ranging from 1 (strongly disagree) to 5 (strongly agree) to measure competitive advantage over 3 years. The six categories of competitive advantage include: (i) Significant improvement in competitive advantage over the largest competitor; (ii) Change in market share relative to the largest competitor with improvement; (iii) The change in relative profitability of the largest competitor has improved markedly; (iv) The change in cost (product or service) relative to the largest competitor has decreased; (v) Change in sales relative to your largest competitor has increased; and (vi) Change in customer satisfaction relative to your largest competitor has increased.

3. Methodology

3.1 Qualitative Research Methods

To begin with the qualitative method, we looked at previous studies and conducted interviews to identify the differences in the competitive advantages of construction firms in Hanoi. However, since their studies were based on foreign experience and construction firms have many specific characteristics that are different from other industries, we tried to propose an enhanced framework by synthesizing their insights, adjusting observation variables to the questions, and applying it to the context of construction firms in Vietnam.

3.2 Quantitative research Methods

We use quantitative components, including the use of questionnaires as inputs for the independent T test and ANOVA analysis, to investigate the differences in the competitive advantages of construction firms in Hanoi.

The selective sampling involves participants in interviews and surveys. The selection was based on the number of observation variables in which participants were involved in their daily work in construction firms. Therefore, in our sample, 100% of participants are employees of construction firms in Hanoi (see Table 1).

We conducted a questionnaire survey of nine observation variables on a 5-point Likert scale. Dependent variables are measured from 1 ("without agreeing") to 5 ("strongly agreeing").

Table 1: Respondents by gender, job position and work experience

	Frequency	Percent	Cumulative Percent
Gender			
Male	98	75.4	75.4
Female	32	24.6	100.0
Age			
The team captain	51	39.2	39.2
Planned economy department	44	33.8	73.1
Business department	35	26.9	100.0
Work experience			
From 5 to 10 years	30	23.1	23.1
Less than 5 years	35	26.9	50.0
10 years or higher	65	50.0	100.0
Total	130	100.0	

Information on the data collected is shown in Table 1. It shows that among the 130 respondents, about 75.4% were male, while the remaining 32 (24.6%) were female. Of these, 51 of them (or 39.2%) were the team captain, 44 of them (or 33.8%) were working for the planned economy department, and 26.9% of the participants were working for the business department. Among the respondents, 50.0% of the participants have work experiences for 5 years to 10 years, 23.1% of the participants have work experiences for less than 5 years, and over 10 years accounted for 26.9%.

4. Results

4.1 Independent T-Test: Different Genders

A comparison of the results of the evaluation of the differences in the competitive advantages of construction firms in Hanoi with participants of different genders (male and female) can be seen in Table 2. According to the results shown in Table 2, sig Levene's test is respectively 0.402, and 0.718, which is more than 0.05. The variance between males and females is not different. Moreover, the sig value t-test is respectively 0.517, and 0.373, which is more than 0.05, which means that there is no statistically significant difference in the competitive advantages of construction firms in Hanoi between these different genders (Hoang & Chu, 2008; Hair *et al*., 2014) [5, 4].

Table 2: Differences in competitive advantages of construction firms in Hanoi with participants of different genders - Independent Test

		Levene's Test for Equality of Variances		T-Test for Equality of Means						
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
CR	Equal variances assumed	0.706	0.402	-0.649	128	0.517	-0.09987	0.15386	-0.40431	0.20456
	Equal variances not assumed			-0.681	57.365	0.499	-0.09987	0.14670	-0.39359	0.19384
P	Equal variances assumed	0.131	0.718	-0.894	128	0.373	-0.14493	0.16211	-0.46569	0.17583
	Equal variances not assumed			-0.849	48.663	0.400	-0.14493	0.17064	-0.48790	0.19804

4.2 ANOVA-Job Position

An ANOVA test was needed to make a comparison of the results of the evaluation of the differences in the competitive advantages of construction firms in Hanoi between the three subjects, including participants who are the team captain, participants who are in the planned economy department, and participants who are in the business department. Table 3 shows that the sig Levene statistic, respectively 0.947 and 0.184, is greater than 0.05, which means that the hypothesis of homogeneity of variance among the variable value groups (different job positions) has not been violated. Table 4 shows that sig. is respectively 0.130 and 0.075, which is more than 0.05, which indicates that there is no statistically significant difference in the level of competitive advantages of construction firms in Hanoi between the mentioned three groups of job positions (Hoang & Chu, 2008; Hair *et al*., 2014) [5, 4].

Table 3: Test of Homogeneity of Variances

Descriptions	Levene Statistic	df1	df2	Sig.
CR				
Based on Mean	0.055	2	127	0.947
Based on Median	0.009	2	127	0.991
Based on Median and with adjusted df	0.009	2	118.362	0.991
Based on trimmed mean	0.009	2	127	0.991
P				
Based on Mean	1.713	2	127	0.184
Based on Median	1.333	2	127	0.267
Based on Median and with adjusted df	1.333	2	105.983	0.268
Based on trimmed mean	1.302	2	127	0.276

Table 4: ANOVA

	Sum of Squares	Df	Mean Square	F	Sig.
CR					
Between Groups	2.315	2	1.157	2.070	0.130
Within Groups	71.021	127	0.559		
Total	73.336	129			
P					
Between Groups	3.263	2	1.631	2.643	0.075
Within Groups	78.386	127	0.617		
Total	81.649	129			

4.3 ANOVA-Work Experiences

An ANOVA test was needed to make a comparison of the results of the evaluation of the differences in the competitive advantages of construction firms in Hanoi between the three subjects, including participants who have worked for 5 to 10 years, participants who have worked for less than 5 years, and participants who have worked for over 10 years. Table 5 shows that the sig Levene statistic, respectively 0.613 and 0.645, is greater than 0.05, which means that the hypothesis of homogeneity of variance among the variable value groups (different work experiences) has not been violated. Table 6 shows that sig. is respectively 0.314 and 0.406, which is more than 0.05, which indicates that there is no statistically significant difference in the level of competitive advantages of construction firms in Hanoi between the mentioned three groups of work experiences (Hoang & Chu, 2008; Hair *et al*., 2014) [5, 4].

Table 5: Test of Homogeneity of Variances

Descriptions	Levene Statistic	df1	df2	Sig.
CR				
Based on Mean	0.492	2	127	0.613
Based on Median	0.277	2	127	0.758
Based on Median and with adjusted df	0.277	2	109.713	0.758
Based on trimmed mean	0.382	2	127	0.684
P				
Based on Mean	0.441	2	127	0.645
Based on Median	0.654	2	127	0.522
Based on Median and with adjusted df	0.654	2	119.446	0.522
Based on trimmed mean	0.540	2	127	0.584

Table 6: ANOVA

	Sum of Squares	Df	Mean Square	F	Sig.
CR					
Between Groups	1.326	2	0.663	1.169	0.314
Within Groups	72.010	127	0.567		
Total	73.336	129			
P					
Between Groups	1.150	2	0.575	0.907	0.406
Within Groups	80.499	127	0.634		
Total	81.649	129			

4.4 The Relationship between the Competitive Advantages of Construction Firms in Hanoi Customer Responsiveness (CR)

The line graph shows the relationship between the competitive advantages of construction firms in Hanoi: customer responsiveness (CR) and each respondent's job position (Fig 1). Fig 1 shows that this line tends to go down when the respondents' job position is in the planned economy department. But this line tends to go up when the respondents' job position is in the business department, showing that the competitive advantage of construction firms in Hanoi, customer responsiveness (CR), is highly valued in the business department.

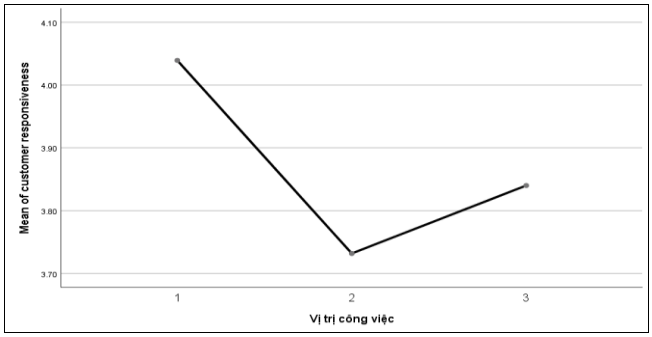

Fig 1: The line graph shows the relationship between the competitive advantages of construction firms in Hanoi: Customer responsiveness (CR) and each respondent's job position

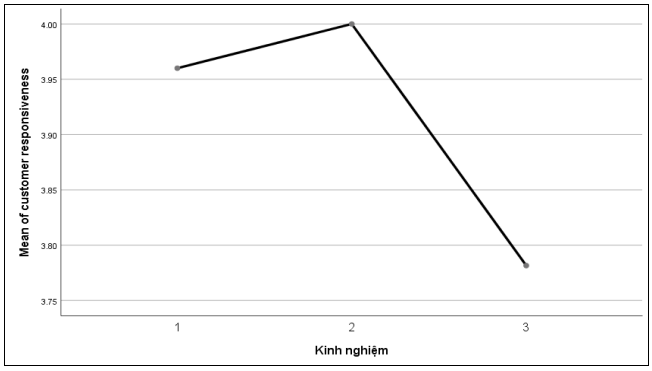

Fig 2: The line graph shows the relationship between the competitive advantages of construction firms in Hanoi: customer responsiveness (CR) and each respondent's work experiences

Next, the line graph shows the relationship between the competitive advantages of construction firms in Hanoi: customer responsiveness (CR) and each respondent's work experience (Fig 2). Fig 2 shows that this line tends to go up when the respondents' work experience ranges from 5 to 10 years to less than 5 years. But this line tends to go down when the respondents' work experience is 10 years or higher, showing that the competitive advantage of construction firms in Hanoi, customer responsiveness (CR), is highly valued when the work experience is less than 5 years.

Price (P)

The line graph shows the relationship between the competitive advantages of construction firms in Hanoi: Price (P) and each respondent's job position (Fig 3). Fig 3 shows that this line tends to go down when the respondents' job position is in the planned economy department. But this line tends to go up when the respondents' job position is in the business department, showing that the competitive advantage of construction firms in Hanoi, price (P), is highly valued in the business department.

Next, the line graph shows the relationship between the competitive advantages of construction firms in Hanoi: price (P) and each respondent's work experience (Fig 4). Fig 4 shows that this line tends to go up when the respondents' work experience ranges from 5 to 10 years to less than 5 years. But this line tends to go down when the respondents' work experience is 10 years or higher, showing that the competitive advantage of construction firms in Hanoi, price (P), is highly valued when the work experience is less than 5 years.

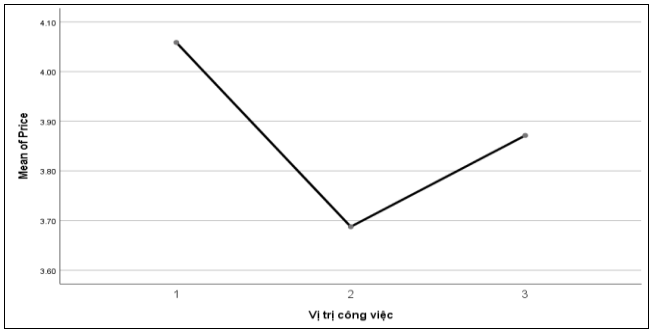

Fig 3: The line graph shows the relationship between the competitive advantages of construction firms in Hanoi: price (P) and each respondent's job position

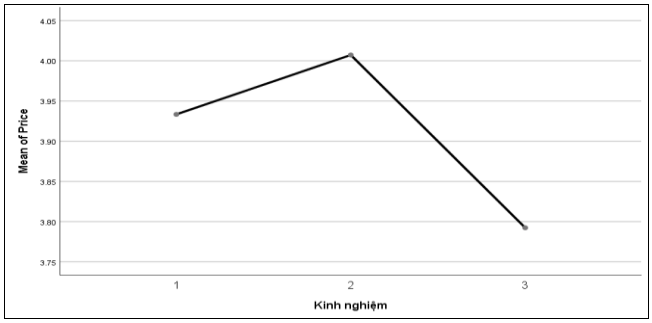

Fig 4: The line graph shows the relationship between the competitive advantages of construction firms in Hanoi: price (P) and each respondent's work experiences

5. Discussion and Implications

Survey results of the Vietnam Association of Construction Contractors (VACC), with over 2,000 construction firms, show that the capital scale is mainly under 100 billion VND. Therefore, in the relationship between the contractor and the investor, there is often no equality. Only a few contractors can do work that requires very high quality and complicated construction; they can negotiate; the rest are difficult to find contracts; the work depends on the investor. Due to small capital, construction firms are first operated based on the advance capital of investors (but most are only advanced 10–15% of the value of the package), followed by bank loans, which are completed in 1-2 months to be settled. However, at present, credit for construction firms is limited and interest rates are still high, so many construction firms are making more and more losses. In addition, 50% of the 10,200 construction firms participating in the VCCI survey in 2021 said that they had difficulties carrying out land and clearance procedures, and 48% reported having problems carrying out procedures on construction planning and urban planning. Therefore, improving competitive advantage is one of the most effective solutions for construction firms.

In the period of 2020–2023, according to Mr. Nguyen Quoc Hiep, President of VACC, the construction industry will be supported by public investment in technical infrastructure works with a huge amount of investment capital. However, only a few firms can do it, so jobs are not evenly distributed. In general, construction firms are facing many difficulties when they have no jobs and have debt problems from investors. Without a source of payment, the last party to suffer from the real estate crisis is the construction firm.

Construction firms in Hanoi have been making efforts to improve competitiveness, improve competitive advantages, and develop brands to reduce difficulties and improve

business performance. Nearly two-thirds of firms said they have embraced technology to keep their businesses afloat during times of disruption and to address some of the industry's key issues: safety, productivity, and labor shortages. In which the enterprise resource planning (ERP) system, mobile technology platforms, cloud computing, and big data are the four technologies with the highest level of application. Large firms in the industry have also been applying the green construction model according to strict standards, saving fuel, and operating closed and circular stages to create competitive advantages as well as value for customers in particular and for society in general (Phan Nam, 2022) [7].

According to the Vietnam Report (2022) [9], construction firms have had short-term and long-term strategies in production and business such as: (i) strengthening financial management and risk management; (ii) job security, wages, and benefits for employees; (iii) strengthening investment cooperation; (iv) promoting investment and technology application development; (v) strengthening training and improving the quality of human resources to adapt to the digital industrial age; and (vi) increasing capital mobilization and building strong financial resources. When these strategies are implemented, they will contribute to improving the competitive advantage of construction firms.

Construction production usually takes place outdoors, under the direct impact of direct environmental factors. Weather and environmental factors have an influence on construction techniques and progress, as well as measures to manage construction machines and outdoor materials. Therefore, in Vietnam, the rainy season months often slow down the production and installation progress of construction enterprises, while the last months of the year are usually the dry season, so it is favorable to speed up the production and installation progress. Construction firms in Hanoi have also relied on these characteristics to improve their competitive advantage.

Currently, construction firms no longer pay attention and allocate little or no annual funding for training, skill improvement, and skill level for technical workers. The reason is that the way of using labor has changed a lot to contract labor, while the rate of workers switching jobs and leaving jobs as technical workers is very high, especially for the group with good skills or training. Thorough training. Therefore, in order to improve competitive advantage, construction firms should improve the training, skills, and levels of technical workers through (i) using old workers to work together and training new workers; and (ii) increasing the reward level for contracted products of good quality, good aesthetics, or completed ahead of schedule. In addition, improve competitive advantage by satisfying customers and lowering prices by improving the quality of human resources. For example, construction firm leaders need to strengthen their efforts to create opportunities for technical labor to be gradually improved. difficulty and nature of work for self-improvement; regularly strengthen dialogue with employees about salary and bonus, development opportunities, development aspirations, etc. to promptly grasp and take appropriate action.

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