VNU Journal of Economics and Business

Journal homepage: https://js.vnu.edu.vn/EAB

Original Article

The Effects of Labor Characteristics on Firm Productivity: Empirical Evidence from Vietnam

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Received 30 August 2021
Revised 17 November 2021; Accepted 25 December 2021

Abstract: The paper investigates how labor characteristics affect firm productivity. Recent arguments on the relationship vary. On one hand, the labor force enhances firms' financial strengths thanks to their manufacturing poductivity; on the other hand, such effects impede operations if overlooked. We proposed three hypotheses with views on such characteristics. First, leadership experience and second, a highly-trained firm labor force are both positively associated with firm productivity, whereas obstruction by labor laws has a negative effect on productivity. In a 123-firm dataset surveyed by the World Bank, the paper reveals that leadership experience and highly trained labor positively affect firm productivity while no statistical evidence was found of obstruction by labor laws. The major findings suggest that, firstly, labor-related theories are properly verified with different analysis settings; secondly, labor characteristics are the primary firm-level competitive power so they should be treated appropriately; thirdly, Vietnamese firms are not likely to be hindered by the country-level labor laws. However, the study constrains itself by not being conducted on a panel dataset to show the pattern over time, and by not treating the leadership experience in a proper, multifaceted way to capture their contribution comprehensively to the business-doing culture in Vietnam.

Keywords: Highly trained workers, leadership experience, firm productivity, Human Capital Theory, labor-productivity relationship.

1. Introduction

From 1986, Vietnam has exerted great effort as a transition economy to catch up with the richer States. Vietnamese policy makers in professions have addressed the problem of national competitiveness as a matter of utmost urgency. They agree that competitiveness should be brought to the highest. Hence, research into the determinants of competitiveness is not a

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https://doi.org/10.25073/2588-1108/vnueab.4680

refreshing school of study, but instead, a highly active one. Overall, productivity is the most highly prioritized factor. Delgado et al. [1] stated the two following points on the praised determinant. The first confirms the crucial role of productivity on competitiveness. The second is that national productivity is the aggregated measure from all firms in the economy. Consequently, for the productivity of the economy to rise, the same condition must apply.

Labor characteristics have been proven to affect on productivity but there are just a few of papers telling such relationship in a country like Vietnam. Ergo, research gap arises to compound these determinants for Vietnam's situation. This research is a prudent fusion of theories, scientific arguments, social-economic perspectives, and empirical data as evidence for the impact of labor characteristics on Vietnamese firm productivity in contemporary settings.

This paper simultaneously benefits the horizon of science and the paradigm of business and policy. For on one hand, prior studies have been mainly concerned with either developed economies [2-5] or emerging economies [6, 7]. In this paper, we took the effort to validate the labor effects in a transitional economy, where economic conditions are constantly becoming obsolete, displaced, and replaced. The results from Vietnam will quench the thirst for knowledge for both domestic and international audiences.

2. Theory and theoretical model

As a matter of fact, there have been previous scholars [8-10] who recognized the impact of labor characteristics on firm productivity. However, it has been shown that the previous research lacks a holistic approach to labor characteristics and proper measurement before the Huselid's era.

To begin with, the research scope of this paper acknowledges two world-known theories. As stated in the original Human Capital Theory, Becker [8] indicated that a labor force is the basis for, incalculable assets when it is properly developed. The value of a labor can be viewed as an economic surplus that contributes to the whole society. Each individual can be considered as an economic unit, in one way or another, contributing to the surplus of the society. Thus, proper conducts of training will improve each individual's own productivity, thereby generating higher surplus [8]. The second base theory is the Efficient-Structure Theory proposed by Berger [11] in which two critical hypotheses by the author indicate how a company could become more productive through the practices of X-efficiency and Scale-efficiency.

Firstly, the theory of human capital relies on leadership experience. Berger [11] indicated that it increases the firm's performance and survival chance [12]. An experienced leader would know how to utilize their human resources at its most optimal level while still ensuring profits for the enterprises and each individual employee. Shining examples of leadership experience are those by Mayer and Flynn [12] and Ogram [13]. These scholarly papers have laid down their theoretical foundation and hypotheses in support of a positive leadership-productivity association. Furthermore, the works by Huselid [9], Ichniowski [10], and Oura, Zilber, and Lopes [14] produced similar results on such an association. Therefore, firms will improve their productivity and maximize profits by cutting management costs, however they must maintain managerial quality. Hence, managers have to work with a higher productivity to minimize unnecessary expenses.

Hypothesis 1: The number of years of working experience of decision makers is positively associated with the productivity of firms in Vietnam.

Other than experience, another factor to be considered is the productivity of highly trained labor for its role in firms' operations. Most notable proof on the connection are scholarly works of Arnold and Hussinger [2], Hatemi-J and Irandoust [3], Ghosh et al. [4], Mahy et al. [5], and Chauhan et al. [7]. Those scholars together measured the labor-productivity effects

with empirical data from firms in countries with high representativeness such as Germany, India, and China. Moreover, papers by the last two mentioned also showed a positive impact on productivity by education level, high skills and labor experience, resulting in higher revenue streams. Practically, some economists argued that human capital should be officially considered as a resource, an intellectual asset of firms [15]. Firms should pay more attention to developing continuous training courses or perpetual education, for the quality of which illustrates the expertise of a firm in highly competitive industries. Maringe and Gibbs [16] indicated that investment in workers should be viewed as a public and private investment at the same time. The author argues that firm publicly investing in education and training for workers will contribute greatly to the economic growth of a region or a country through increased productivity, social stability, and healthier lifestyles. Also, privately-invested workers are required to continuously enhance themselves through educational activities to ensure a better personal life including a high chance of employment, a better paying job, and faster access in a transitional economy [17]. From the above arguments, we propose the second hypothesis:

Hypothesis 2: The percentage of workers in a highly trained labor force is positively associated with the productivity of firms in Vietnam.

Last of all, many researchers took into account the current legislation system for firm productivity. Specifically, Besley and Burgess [6] ran testings on Indian firms to determine whether they suffer due to the poorly-structured labor laws in the State, which pointed out that the policy-making system is the primary block preventing firms from performing with their highest efficacy [6]. Moreover, findings from other scholars have proposed the use of laws, institutions, and policies as the main factors which tremendously contribute to a nation's economic performance [18, 19]. Besley and Burgess' paper indicated that India at the time of their study had owned more than 200 labor laws, including 52 acts [6, 18]. Therefore, most Indian SMEs were suffering financial difficulties because of macro-environmental fluctuations and constrained R&D plans. Vietnam seems to share the same issue. Hence, firm practices are likely to be damaged when major changes happen. Ben Yahmed and Dougherty [18] also shared the same view that technology enterprises in the OECD member states thrive prosperously only because they are not under any strict regulations. It is believed that a higher extent of flexibility in regulations helps techno-development to flow faster without breaching any intellectual property rights [18]. Considering these arguments, we propose the final hypothesis:

Hypothesis 3: The feeling of obstruction by the labor laws in Vietnam is negatively associated with the productivity of firms in Vietnam.

Based on those arguments, the theoretical framework of the study is presented in Figure 1.

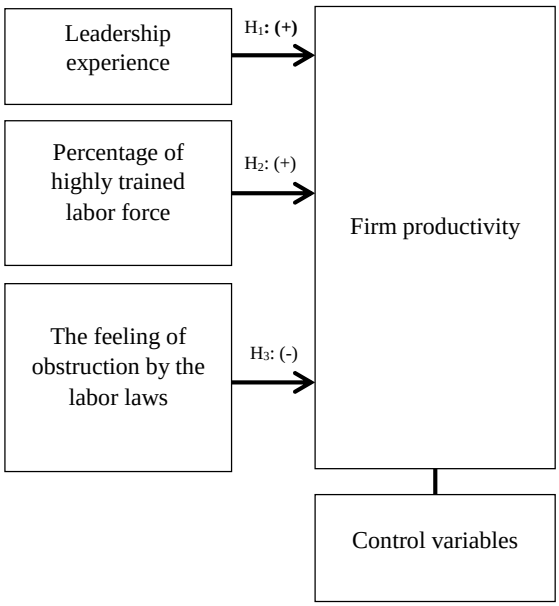

Figure 1: Proposed theoretical framework
Source: Authors.

3. Research methodology

3.1. Data and sample

To account for the labor-productivity relationship, this study has proceeded with two sets of data both scoped for 2015, primary to which is one made available by the World Bank to monitor Vietnamese firms' performance throughout many years, with 2015 being the best fitted and updated. The latter dataset is one collected and documented by the Vietnamese GSO in 2015. This set of data does not run along with the study as the present writers did not use it to run any analysis, in fact, it does support certain demographic point of view by the writers stated within the paper.

Primarily, we used the dataset by the World Bank, tailored to monitor Vietnamese enterprises' performance in 2015. This is a set of questionnaires that covers a wide horizon of business environment problems in Vietnam. The firm's representatives were interviewed directly by the World Bank staff as to how their firms were operating and how well they were performing. To pick out the firms for our scope of study, we had certain preset characteristics in mind; in detail, we chose all the firms that had clear and appropriate answers to the study characteristics that is, that they could provide senior leadership working years, appropriate accounting measurement of the percentage of the highly trained labor force over total employees and lastly how they felt about the labor laws in Vietnam - whether they are likely an obstruction for their performance or not. Based on our preset characteristics, 123 firms chosen that can satisfy the scope.

The other set of data is referenced from the GSO that the present writers skimmed through to grasp an overview knowledge of certain demographic points of views such as the employment rate, education rate and economic standpoint. In fact, all this information and the data cascaded into our rationale on picking this study scope and thus, were not included within the data analysis.

3.2. Measurement

3.2.1. Dependent variable

The dependent variable is firm productivity which is defined as a real-time measurement that allows firms to track their performance constantly [9]. It is measured by dividing firms' revenues by their total employees. The results expressed as a percentage show how much pecuniary profits that an employee can generate, which signifies that the higher the percentage the higher the firm productivity. Therefore, this is the best approach to measure firm productivity as it reflects firms' two important aspects, output and input volume. In general, most performance indicators are based on total output volume per total input volume. This is truest with the case of our measurement choice since we are measuring firm performance with regards to total revenues as total output that firms can produce within certain times, and total employees as total input that firms have utilized to produce benefits. In other words, this is to assess how much benefits one indivitual employee can produce within certain allotted time.

3.2.2. Independent variables

The first independent variable is the leadership experience, defined as the number of years that the leader has held that positon. This variable was measured by subtracting the leaders' first year of working from the year of the analysis. The measure signifies that the higher the number of years worked the more experienced the leader is.

The second independent variable is the percentage of highly trained workers in a firm. The percentage represents those workers who have undergone skill-enhancing proceedings to improve individual productivity. Highly trained workers are supposed to handle tasks and difficulties with tremendous skill. These more able workers are deemed to have better performance in comparison to the average, which in turn increases firm overall productivity in competition.

The third independent variable is the feeling of obstruction caused by the labor laws. From the

country-level viewpoint, one's laws act as a game-changing catalyst on firms' productivity, for they could better or worse off their performance in many ways. We have dummied this variable into three categories. The first dummy dictates if the interviewees feel like they were suffering with minor and moderate obstacles or not; the second with major and severe suffering; and the third with no feeling of there bing any obstacle at all. This variable does not straightforwardly reflect the obstruction caused by labor laws in Vietnam. In fact, it does reflect the feeling of the interviewees right at the time they are questioned and consulted if they think their firms were being hurt by the structured laws. Hence, if they do presume they are being obstructed by the laws with minor and moderate severity, their choice was then dummied into the first dummy variable by the present writers, and the same applies for others.

3.2.3. Control variables

Firstly, informal payments were used as a negative factor to firms' productivity. This kind of money will adversely impact the abusing firms when improperly used [19], for it impedes investment and makes firms more fragile to economic fluctuations in countries with poorer governance efficacy. It appears that those with higher use of informal payment tend to underperform in comparison to those without, in the long-term.

Secondly, we controlled firm industries with two distinguished categories, which included manufacturing and services. Based on past literature [20, 21], we hypothesized a slight difference in performance regarding firms' activities.

Thirdly, we regarded firms' operating age, which was calculated by the numerical difference between the year of analysis and year of establishment. It is believed that firms with a higher operating age will tend to perform better than those that have been operating for less time, for they possess consistent assets and higher working experience within the markets.

Fourthly, we observed the leader's gender as one of the determinants, i.e. the interviewed leader is respectively male or female. With this control variable, we observed the difference between the two genders in firm productivity, given the context of Vietnam with a long cultural prejudice that the men in senior positions tend to outperform their women counterparts.

Lastly, firm size was taken into consideration, which was measured by the number of employees. Larger firms are deemed to have better performance than smaller ones, for they have greater capital power and asset possessions available for use than smaller ones. Furthermore, firms of a larger size have greater access to information technology, financial fortification, quality manpower, and etc. [22].

Table 1: Varibles and measures

Variables	**Measurement**	**Literature**
Firm productivity	The fraction of total revenue over total employees	Huselid [9], Ichniowski [10]
Leadership experience	The difference between the first year of leaders in senior positions and year of analysis.	Subramony [23], Dokko, Wilk, and Rothbard [24]
Percentage of highly trained workers	The fraction of highly trained workers over total workers	Sonnentag [15]
Obstruction by the labor laws	Dummy variable, which tells how severe the interviewees presume labor laws obstruct their firm performace.	
Informal payment	The fraction of informal payment over total revenue	Ninh [19]
Firm industry	Dummy variable (1: Manufacturing, 0: Services)	Heshmati and Rashidghalam [20], Prajogo [21]
Firm age	The difference between the year of when firm was	Loderer and Waelchli [25]

	founded and year of analysis	
Leader's gender	Dummy variable (1: Male, 0: Female)	
Firm size	The total number of employees	Orser et al. [22], Smith, Guthrie, and Chen [26]

Source: Authors.

3.3. Estimation methods

To account for the scope of this study, we used the Logit regression to estimate the labor-productivity relationship. Then, the Ordinary Least Squares (OLS) approach was used to measure the variables' relations to each other. The detailed specification can be seen as of follows:

$$Y_{(X)} = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \vec{C} + \varepsilon$$

Where:

- Y represents the dependent variable - firm productivity, the value of which ranges from 0 (zero) to 1 (one):

$$Y_{(X)} = [0,1] = \{ X \mid 0 \le Y_{(X)} \le 1 \};$$

- α represents the model intercept;

- β_1, β_2, β_3 represent regression coefficients of the independent variables;

- X_1, X_2, X_3 represent observed values of the independent variables;

- $\vec{C}$ is the vector of the model, representing all the control variables of the model;

- ε indexes the random errors of the model.

To determine if the relationship is statistically significant or not, we have run several analyses with the following specific pattern: firstly, the effects of control variables and firm productivity were considered, setting aside other influencing factors. Then, to yield a better result with independent variables also taken into account, the next four analyses were run to do this. The final test' significance parameters improved tremendously. This signifies the fact that the dependent variable and analysis methodology choices have proven to yield a statistical context, drawing as much knowledge as possible into reality.

Table 2: Descriptive analysis scorecard

Variables	**VIF**	**Mean**	**Std. Dev.**	**Min**	**Max**
Firm productivity		19.90	2.29	14.1	26.42
Leadership experience	1.09	17.37	8.62	2	45
Highly trained workers	1.28	0.25	0.27	0.002	1
Obstruction by the labor laws (Dummy 1)	1.07	0.29	0.45	0	1
Obstruction by the labor laws (Dummy 2)	1.08	0.024	0.15	0	1
Firm industry	1.04	0.53	0.50	0	1
Firm age	1.07	14.11	13.38	2	113
Informal payment	1.10	3.29	3.37	0	15
Leader's gender	1.05	0.19	0.39	0	1
Firm size	1.29	222.1	407.6	5	2500

Source: Authors.

Table 3: Variable characteristics scorecard

Variables	Firm productivity	Leadership experience	Highly trained workers	Obstruction (Dummy 1)	Obstruction (Dummy 2)	Firm industry	Firm age	Informal payment	Leader's gender	Firm size
Firm productivity	1.00									
Leadership experience	0.12	1.00								
Highly trained workers	0.40***	-0.01	1.00							
Obstruction (Dummy 1)	0.07	-0.17*	0.04	1.00						
Obstruction (Dummy 2)	-0.14	-0.01	-0.06	-0.10	1.00					
Firm industry	-0.06	-0.09	-0.10	-0.04	-0.06	1.00				
Firm age	-0.05	0.10	-0.13	-0.01	-0.10	0.07	1.00			
Informal payment	-0.19**	-0.07	0.06	-0.08	0.17*	0.17	0.01	1.00		
Leader's gender	-0.05	-0.00	-0.05	0.08	0.05	0.00	-0.09	-0.10	1.00	
Firm size	-0.46***	0.13	-0.38***	-0.08	-0.03	-0.04	0.01	0.13	-0.10	1.00

Note: *, **, *** denotes statistical significance level at p value < 10%, < 5%, and < 1% respectively.

Source: Authors.

4. Results

4.1. Descriptive statistics and correlations

Tables 2 and 3 record variable information. The independent variable was measured in percentage; hence the Logit estimation was particularly appropriate. Beforehand, we ran needed tests to get statistically reliable data to avoid heteroskedasticity and multicollinearity issues. These performances yielded compelling outcomes. A White test gave the p-value at 92.68%, over the 5-percent threshold of acceptance. Next, the maximum correlation factor of each variable to the others reached 0.46, below the 0.80 threshold. Therefore, we partly came to the conclusion that neither heteroskedasticity nor multicollinearity were problematic. Then, assuring the outcomes for higher soundness we tested the said problem in another attempt using the VIF ratios. The figures were well under the five cutoff, which had been suggested by Hair Jr. et al. [27]. Details are shown in Table 2.

4.2. Findings and discussions

Table 4 pertinently summarized the results that we obtained from regression analysis. The acquired results confirm the initial expectations. Firstly, the fit parameters of the models that we conducted have proven a well-fit for the data. Proxied by the R^2 and log-likelihood values, the fit parameter has improved from 0.24 in the model with only control variables to roughly 0.35 at the final piece which totals up three independent and five control variables. This shows great soundness of the theoretical framework in terms of values and significance level.

Primarily, regression results have proven that two out of the three independent variables, i.e. leadership experience and the percentage of highly trained workers, are positively associated with firm productivity with satisfactory significance levels (with $\alpha = 0.045$, significance level at $p < 5\%$ for leadership experience; $\alpha = 2.03$, significance level at $p < 1\%$ for the percentage of highly trained workers). The results are discussed as follows:

Firstly, scholars with the same views on the leadership experience produced similar results, with high compatibility, to ours. Dokko et al. [24] proved that firms with more senior employees who have greater knowledge and/or prior experience will tend to thrive in comparison to firms with fewer senior employees with knowledge and/or prior experience, for such senior employees would utilize their knowledge in the new jobs, looking for greater prosperity at the new firms within the same industry [28]. Next, our results align with the chosen theory. According to Berger [11], to whose theory our research paper was based on, the idea of Efficient-Structure implied that either scale efficiency and X efficiency (or in other words they are using economies of scale in business and greater knowledge in management positions of a firm), increasing will result in a tremendous improvement of performance in terms of profits and market share. In detail, when firms have higher operational efficiency, they gain more profits. Then, higher profits are likely to drive firms into a better-off position (possessing a higher market share) where they are able to exert competitive advantage thanks to their financial strengths. However, the writers believe there is an issue that the leadership experience variable is numerically small whilst the effects of the percentage of highly trained workers are exceptionally approved. The cause of this interest, on our views, rests upon the business-conducting culture in Vietnam. This is unline most of the westerner counterparts, whose business mostly focuses on collectivism in working places, where seniors usually form a Top Management Team (TMT) and all seniors are on the same par of decision making. By this situation, every decision is evaluated and proceeded by peer seniors before being implemented, at which point decisions have been good ones for profits. Therefore, the present writers suggest that the difference between the extent of individualism and collectivism in business-conducting culture in the Vietnamese context shall be academically expressed.

Table 4: Empirical results scorecard

Variables	(1)	(2)	(3)	(4)[1]	(4)[2]	(5)
Intercept	21.22 (0.39)***	20.39 (0.53)***	20.37 (0.46)***	21.17 (0.42)***	21.27 (0.39)***	19.65 (0.60)***
Independent variables						
Leadership experience		0.048 (0.021)**				0.045 (0.02)**
Highly trained workers			2.32 (0.72)***			2.03 (0.72)***
Obstruction (Dummy 1)				0.15 (0.40)		0.21 (0.39)
Obstruction (Dummy 2)					-2.17 (1.20)*	-1.72 (1.16)
Control variables						
Firm industry	-0.32 (0.34)	-0.25 (0.36)	-0.19 (0.35)	-0.32 (0.36)	-0.37 (0.36)	-0.16 (0.35)
Firm age	-0.01 (0.01)	-0.01 (0.01)	-0.002 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)

[1] Contains the first dummy variable for Obstruction by the labor laws.
[2] Contains the second dummy variable for Obstruction by the labor laws.

Informal payment	-0.10 (0.05)*	-0.08 (0.05)	-0.12 (0.05)**	-0.09 (0.05)*	-0.08 (0.05)	-0.09 (0.05)*
Leader's gender	-0.69 (0.41)	-0.70 (0.45)	-0.53 (0.45)	-0.70 (0.47)	-0.64 (0.46)	-0.54 (0.44)
Firm size	-0.003 (0.00)***	-0.003 (0.00)***	-0.002 (0.00)***	-0.002 (0.00)***	-0.003 (0.00)***	-0.002 (0.00)***
No. Observations	123	123	123	123	123	123
R^2	0.2481	0.2794	0.3099	0.2491	0.2687	0.3492
Adjusted R^2	0.2160	0.2421	0.2742	0.2102	0.2309	0.2973
P-value	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Note: *, **, *** denotes statistical significance level at p value < 10%, < 5%, and < 1% respectively.

Source: Authors.

Secondly, the percentage of highly trained workers is positively associated with Vietnamese firm productivity. We proved that higher percentage pairs with higher productivity, which is in line with cited scholars' works [17, 27]. In compatibility, the results have proven to be a well suitable view. Becker [8] found that workers are a great resource of a firm in competitive scenarios; hence they should be regarded as a type of investment since then firms would definitely tend to look at the workforce with proper care for them to be of great use [8]. Notably, Becker's idea [8] stated that the essential training methods to enhance workers' productivity rested upon on-the-job training. This requires two sides of mutual work with, on one side of the coin, the workers being able to exercise themselves using funds from their incumbent firms (called specific training) or they use their own funds to enhance themselves when they feel the need to (general training). The two methods are distinguished by the specific training costs being borne by firms when they invest in the human workforce. Thus, financial risks associated with the investment are also at the investors' expense. On the contrary, general training only happens when the workers improved using their own resources. To the present writers' best knowledge, the situation in Vietnam requires firms to choose specific training to enhance workers' productivity, thereby increasing overall productivity. However, like most other kinds of investment, conducting the specific training methods have certain risks for firms. For instance, the specifically-trained workforce needs to be kept out of reach from other intra-industry firms for fear that firms might lose them to competitors. With that said, the investing firms have trained workers just for them to look for other opportunities, which signifies a two-fold financial loss when they cannot experience profit gains in the future given the fact that they have already paid for the training costs.

Less importantly, control variables such as informal payment and firm size are negatively associated with firm productivity (with $\alpha = -0.09$ and significance level at $p < 10\%$ for the use of informal payment in business; and $\alpha = -0.0021$ and significance level at $p < 1\%$ for the firm size variables).

Firstly, the results for informal payment are in line with our expectations and the findings of past literature [19]. This study has shown that the use of informal payment in business to "grease" the "wheels of commerce" is not a great choice. One of the previous studies, by Ninh [19], was certainly appealing to us, for it has a lot of ideas and viewpoints. The present writers believe that the situation of informal payment in Vietnam has a parabolic arch shape, which means the use of such money is actually helping firms, at first. However, when it soars to the peak, the line morphs into the opposite direction and ends up going down. It is clear that after each time informal payment are used, the local authorities

who took the money informally are going to ask for more and more during the next times of "greasing," demanding higher amounts of payment next times.

Secondly, firm size was found to be negatively associated with firm productivity. Surprisingly, the study produced opposite results in prior literature. Based on a study by Smith et al., [26], who figured out that firm size in certain situations, is a two-edged remark. To the present writers' best understanding, we agreed on the proposition that firm size has a positive effect on Vietnamese firms' productivity, for obviously the larger firms are usually supposed to get better financial outcomes when it comes to dealing with economic changes. However, in specific cases, it arises that the size-productivity relationship is contingent to business situations. Smith et al. [26] found out that those firms with Defenders characteristics are likely to thrive when they have fewer employees, for the small-sized Defenders would gain higher margins with less inputs of resources when compared to large-sized Defenders [30]. The other firms are characterized as Prospectors, those who are able to exert pricing domination in markets. Large-sized Prospectors are believed to outperform the small-sized Prospectors in financial terms when it comes to dealing with changes in business environments. The aforementioned literature aligns with our findings given the Vietnam context, where firms are primarily operating at a small-and-medium scale, or described as Defenders in accordance with Smith's scenario [26]. Therefore, the results for the size-productivity relationship did not live up to our expectations at first; however, we believed that due to the working scale of enterprises, firms may experience a downturn in economic activity due to their size.

4.3. Robustness check

To keep the findings' soundness, we performed another estimation shown in Table 5. We conducted a new test using Tobit regression estimation. The re-verifying results appeared almost similar with the original one, which does not alter the main cause of the theoretical framework. Therefore, this numerical evidence ascertained our robustness on the initial expectations, for they are no doubt making a great reference for reality.

Table 5: Robustness analysis

	Initial analysis	**Robustness analysis**
Intercept	19.65 (0.60)***	19.65 (0.57)***
Independent variables		
Leadership experience	0.045 (0.02)**	0.045 (0.02)**
Highly trained workers	2.03 (0.72)***	2.03 (0.68)***
Obstruction (Dummy 1)	0.21 (0.39)	0.21 (0.37)
Obstruction (Dummy 2)	-1.72 (1.16)	-1.72 (1.11)
Control variables		
Firm industry	-0.16 (0.35)	-0.16 (0.34)
Firm age	-0.01 (0.01)	-0.008 (0.01)
Informal payment	-0.09 (0.05)*	-0.09 (0.05)*
Leader's gender	-0.54 (0.44)	-0.54 (0.42)
Firm size	-0.0021 (0.0004)***	-0.0021 (0.0004)***
No. observations	123	123
R^2/Pseudo-R^2	0.3492	0.0957
Adjusted R^2/Log-likelihood	0.2973	-249.53
P-value	0.0000	0.0000

Note: *, **, *** denotes statistical significance level at p value < 10%, < 5%, and < 1% respectively.
Source: Authors.

5. Conclusion

The study has ultimately advanced our comprehension of the labor-productivity effects. Empirical findings conclude that labor factors workers tremendously affect firm performance and are the all-important part since the workers provide multifaceted benefits given they are properly treated and invested. Besides, the use of informal payments in business is highly not recommended in the long-term. Given these findings, this paper has partly expanded on past literature and added new comprehensibility to the academic works of several perspectives.

5.1. Implications

Theoretically speaking, the adoption of the theories at the Vietnamese business scenario has enabled us to conceptualize the framework and test their compatibility in a transitional economy, which might be an inference for other countries. Furthermore, the study contributes to the international business literature by framing theoretical arguments from the adoption of world-known theories in a transition economy, might be a great scientific source for other economies resembling that of Vietnam.

Moving onto practical contributions, the implications conclude that Vietnamese firms are not hindered by laws. It also implies that firms are likely to thrive thanks to their internal manpower when they are properly treated. This can help Vietnamese firms in facilitating their economic hardships and holding a better grasp of overall efficacy and ultimate productivity.

5.2. Limitations

Although compatible, viewing the problems from a researcher viewpoint somewhat limits our comprehensibility in the aforesaid regards.

Firstly, albeit satisfactory, the leadership experience produced disappointing results with the α value at slightly 0.045. That is because we only utilized the years of working in senior positions to measure their experience. The leadership experience should be judged with multifaceted characteristics that cover wide areas of the senior employees' understanding, knowledge, working experience, and even attitudes to subordinates, etc. Therefore, future studies should take this problem into account.

Secondly, although the study has produced agreeable outcomes, it is constrained by the use of cross-sectional data instead of panel data. The application of a cross-sectional dataset restricts our views on the labor-productivity effects from temporal settings. The choice of a panel dataset would produce more reliable results with time-variant characteristics involvement. Therefore, it is suggested that further research adopts the topic with panel data proceedings to validate its modernity and reliability at different temporal settings.

Acknowledgments

This study is funded by Can Tho University under the grant number 75/HĐ-QLKH2020. We could not have done our research this complete without the incredible support from them.

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