Critical Factors that Influence the Effectiveness of Exploiting Toll Booth (Build-Operate-Transfer-Bot) Projects in Vietnam: Sponsorship Bank’s View

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Abstract

Vietnamese firms are particularly interested in the successful utilization of developments financed by toll stations (BOT). The research was done to determine the influence of a variety of variables on firms' capacity to efficiently utilize the BOT toll station project, including the following: From the standpoint of loan-financing banks. Financial statement information for five years (2018-2022) and the capacity profile of 35 firms that obtained loans from commercial banks to operate the BOT toll station project were gathered. Investment capital; economic efficiency; project operation personnel; project implementation experience; transparency in bidding; and location of BOT toll booths are all included in the research. Due to the fact that the data are temporal and spatial in nature, the panel regression approach is utilized using three models: (1) Using pooled OLS, (2) FEM, and (3) REM, the author estimated a regression model and evaluated it using the Hausman, Time Fixed Effect, and REM tests to determine the best appropriate model. The findings indicate that six factors influence an enterprise's capacity to exploit the BOT toll station project successfully, including investment capital; economic efficiency; project exploitation personnel; project implementation expertise; transparency in bidding; and location of the BOT toll booth. The outcome contributes to the corpus of knowledge by examining the chance of firms using the BOT toll station project efficiently in a developing nation like Vietnam. Additionally, it gives insight into public and private sector stakeholders’ perspectives of how to efficiently use the BOT toll station project, which is critical for prospective stakeholders when deciding whether or not to invest in such projects.

Keywords: Project Efficiency, BOT Project, Fixed Effect, Random Effect

INTRODUCTION

Effective toll collecting operations in the form of BOT (Build-Operate-Transfer) projects are always a worry for many firms when they participate in BOT projects (Levy, 1996; Macdonald & Nguyen, 2022). Mobilizing investment resources to create infrastructure, particularly transportation infrastructure, via the use of Build-Operate-Transfer (BOT) contracts is the correct strategy for the Vietnamese Communist Party and State (Le et al., 2020; Macdonald & Nguyen, 2022). Collect social resources for the purpose of consulting on the development of socioeconomic infrastructure systems, particularly transportation infrastructure systems (Levy, 1996; Macdonald & Nguyen, 2022).

By drawing social resources (including commodities budgets to support commercial loans to firms participating in BOT toll collecting projects), a new look in terms of structure and transaction infrastructure, particularly in the sphere of road transport, has been developed. The interfaces steadily increase efficiency, enhance people's quality of life, and contribute to the Vietnamese economy's total capability and competitiveness (Le et al., 2020).

However, investment in the construction and operation management of a number of BOT toll station projects has continued in the past, limited to the preparatory stage, which includes planning, appraisal, and approval of investment projects, investment in the formulation, appraisal, and approval of technical design, and determination of the total investment amount to serve as the basis for calculating the fee (Alves, 2006; Le et al., 2020). Investors are still mostly chosen via contractor appointments, and certain investors' ability remains restricted; capital mobilization activity continues; The construction duration for certain works is still excessive,

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and the quality of other works falls short of the standards (Levy, 1996; Garcia del Castillo, 2001; Macdonald & Nguyen, 2022). The works are being exploited and operated in an unreasonable manner, resulting in public dissatisfaction and the poor running of the BOT toll station project (Le et al., 2020; Macdonald & Nguyen, 2022).

According to the Ministry of Transport, Vietnam has a total of 88 BOT toll stations on its territory, of which 67 are operational and 21 have not yet implemented toll collecting. On National Highway 1A, there are 40 toll stations; about every 62 kilometers, a road toll station will be located (Linh, 2018).

However, the Ministry of Finance (Vietnam) advises that toll stations must adhere to the road design connected with the project chosen by the competent authority, and the distance between stations must be at least 70 kilometers. Typically, investors participate in BOT toll station projects on National Highway 1A to upgrade the road from 30 to 50 kilometers. There are 24 toll stations on the national highway system that are fewer than 60 kilometers apart; and nine stations that are between 60 and 70 kilometers apart. BOT toll booths have corrupted the policy, rendering useless the legislation requiring a minimum distance between two toll booths. Indeed, there have been instances when "roads are built in one place, stations are built in another" such as bypassing National Highway 2, bypassing Vinh City - Nghe An, and so on, new investment vehicles that do not go but must still pay the price. While there are precise rules requiring a minimum distance of 70 kilometers, they serve as a "backup" to the potential that if the distance cannot be guaranteed, it may be "flexibly applied" by an agreement between the Ministry of Transport and Communications. The Finance Ministry and local governments, resulting in a dense concentration of toll booths along the main route. The route between Hanoi and Thanh Binh is more than 100 kilometers long, and travelers and companies must pay four times the toll while passing through the station. The distance between Dak Nong province and Mien Dong bus station (Ho Chi Minh City) is around 330 kilometers via National Highway 13 and National Highway 14, yet there are eight toll booths, each of which is more than 40 kilometers long and has elicited strong responses from the public (Loc, 2020).

According to the Directorate for Roads of Vietnam (Vietnam's Ministry of Transport), Vietnam now has 62 BOT projects, with a total income of VND 12,636 billion in 2020 from road usage services provided by BOT projects. There are eight projects that will suspend toll collection, including: National Highway 1A investment project (the bypass of Thanh Hoa city - toll collection will cease on August 10, 2017); National Highway 1A construction project (the Ha Tinh city bypass - toll collection will cease on February 21, 2019); and National Highway 1A construction project (the Ha Tinh city bypass - toll collection will cease on February 21, 2019); The bypass of Cai Lay town and the strengthening of the road surface section between Km 1987+560 and Km 2014+000 in Tien Giang province; The Dong Nai new construction project and bypass of the first two points from Tan Van junction to Bien Hoa city in Dong Nai province (collection suspended until August 24, 2020); Projects to enhance and upgrade national highway 10, include the segment from La Uyen bridge to Tan De bridge in Thai Binh province and the Dong Hung bypass, which will temporarily cease toll collecting at the Tan De bridge toll station in order to relocate to the Dong Hung bypass; The project to renovate and upgrade National Highway 2, Noi Bai - Vinh Yen section (collection suspended from October 14, 2020); The project to repair and upgrade some sections of National Highway 20 through towns (collection suspended from October 20, 2020); The project to upgrade and renovate National Highway 1K in the provinces of Dong Nai, Binh Duong, and Ho Chi Minh City via a BOT contract (temporary suspension from October 31, 2020). The Viet Nam Directorate of Roads (Vietnam's Ministry of Transport) has proposed that firms who have not completely disclosed their earnings must comply with requirements such as the project to restore and improve National Highway 18, section Bac Ninh - Uong Bi. The project claims a lack of data on the number of vehicle traffic passing through the station, owing to the project enterprise's inability to compare it to the supplier of non-stop toll collecting.

As a result of the aforementioned issues, enterprises have not been as productive as envisioned when developing and assessing initiatives for deploying, exploiting, and operating BOT toll stations. The research topic will examine the internal factors that influence enterprises' participation in the BOT toll station project (from the perspective of banks that finance commercial loans), identifying and predicting the extent/ability of
the enterprise to implement the BOT toll collection project, as well as determining whether the project will be effective for that enterprise or not (case study in Vietnam).

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Project Efficiency

According to Webster (1984), "Efficiency means producing or being capable of producing an outcome". However, when the author interacts with project management practitioners and studies management literature, both concepts are used interchangeably. According to certain writers and a large number of students, the terms "efficiency of investment" and "results of investment" are equivalent. This ambiguity is often mentioned in the literature on project management, but it is also mentioned in organizational theory (Belout, 1998; Ika, 2009). "Project effectiveness" is a phrase that is seldom used in project management literature, however there are few instances of it being used by various writers, notably as a synonym for project effectiveness (Brewer & Runeson, 2009; Kureshi, 2013), or the efficiency of a project (Sau, 2011), (Yousef & Nils, 2017).

Economic Efficiency

Economic efficiency is an objective economic concept that occurs as a result of resource scarcity. The economy's necessity for resource efficiency (investment capital, human expenses, etc.) is more critical. In the broadest sense, economic efficiency from project investment is the expression of the comparative connection between the benefits delivered by the project and the resources required to conduct the project in order to reach the intended objectives. The economic efficiency of a project is measured by the degree to which the output created by the project satisfies societal demands, including economic and social advantages. A project that achieves economic efficiency may also fail if the benefits realized are less than the expenditures incurred by the firm in implementing the project.

According to Dy et al. (2000), economic efficiency is the relationship between limited inputs and outputs of products and services, and it is used as a criteria for evaluating financial resources. How well-distributed are the initial markets? Thus, economic efficiency may be defined as the degree to which producers succeed in allocating limited resource elements to make goods in order to accomplish a certain objective.

According to Samuelson & Nordhaus (2001), economic efficiency exists when a society cannot enhance the mass production of one item without diminishing the mass production of another good. In essence, this definition of efficiency relates to the component of social production resource allocation that is efficient. Efficiency is increased by effective resource allocation and use.

Alternatively, Coelli et al. (2005) compute economic efficiency (EE - Economic efficiency) as the product of technical efficiency (TE - Technical efficiency) and allocative efficiency (AE - Allocative efficiency) (EE = TE*AE). Economic efficiency disparities across businesses may be ascribed to variances in technical and allocative efficiency. In which "technical efficiency" is defined as "the ability to produce a specified volume of output from a specified amount of input or the ability to produce a specified volume of output from a specified amount of input, corresponding to a specified level of technology" and "allocative efficiency" as "the ability to select an optimal volume of input such that the marginal product value of the final unit of input equals the price of that input".

Invested Capital – IC

According to Cham (2018), investment capital resources are always critical and visible in each investment project; yet, depending on the scale of the project, investment capital sources will vary. Investment has a beneficial influence on an enterprise's capacity to properly use BOT initiatives. The more the enterprise's investment capital, the more it will contribute to the BOT project's operation (through the fact that the enterprise has abundant financial resources to pay the related costs of regular and unexpected nature). During project execution, such as operational expenses, personnel, investment in machinery and equipment, and so on), hence increasing the likelihood that firms' BOT initiatives will be successfully exploited.
If the firm has an investment capital of 1 billion VND, the IC variable will have a minimum value of 1 (round the digits to the closest unit). If the enterprise has an investment capital of more than 1 billion VND, the total amount of investment capital will grow (depending on each capital investment project). The variable IC is intended to have a positive value since having investment capital to participate in the operation and exploitation of BOT toll booths enables the firm to more easily complete the project's responsibilities. The procedure for operating a toll station.

Therefore, the author proposes hypothesis $H_1$ as follows:

$H_1$ – The factor of investment capital is positively related to the ability to effectively exploit the BOT toll station project.

**Economic Efficiency - EE**

Economic efficiency is often seen as an important factor in the appraisal of investment projects. With any project before being implemented, the investor (enterprises) will first implement the project with consideration of the criteria of economic efficiency brought from the investment project for enterprises (Giang, 2007). There are many criteria to evaluate whether a project implemented in the future is effective (with a positive profit) or not (recognizes a loss of investment), in this study, from the perspective of project appraisal of commercial banks, the authors collect data with information about Appraisal of an investment project with the indicator "Positive profit at the year of investment", the economic efficiency data will be coded with "1", in contrast, with the information on the appraisal of an investment project with the criterion of "Profit recognized profit break-even or negative at the year of investment", Economic performance data will be encoded “0”. Therefore, hypothesis $H_2$ is proposed as follows:

$H_2$ – Economic efficiency factor has a positive impact on the ability to effectively exploit the BOT toll station project.

**Operating Staff - OS**

The personnel involved in the exploitation and operation of the BOT toll station project has a critical role in determining how toll collection is implemented at the BOT toll station, since this staff will perform tasks directly linked to toll collecting. Toll collection - permitting cars to pass through the station - monitoring and reporting on the number of vehicles going through the station (about the number of vehicles passing through the station, of which how many vehicles pass through the station). Non-stop toll collection, the number of trips given priority to avoid paying tolls while traveling through the station, the amount of cash received from toll collection, the number of tickets handed to modes of transport going through the station, and information about the station toll's quality,… on a daily/monthly/quarterly/yearly basis and sporadically regarding the company that manages the BOT toll-gate. If the crew running the tollgate is inefficient, station operation faults will impair the enterprise's capacity to leverage the BOT toll booth efficiently. The enterprise's workforce reflects the number of employees participating in the operation and exploitation of the enterprise's BOT toll station (Ling & Hoang, 2010). If the company has less than one employee, the variable OS will be set to 1. If the organization has more than one employee, the variable OS will be set to more than one. The projected OS variable is positive because the more personnel participating in the operation and maintenance of the BOT toll station, the simpler it will be for the firm to complete each step of the toll station operating process cost. Therefore, hypothesis $H_3$ posed in the study:

$H_3$ – The human resource factor has a positive impact on the ability to effectively exploit the BOT toll station project.

**Project Experience - PE**

It will be more favorable for firms with prior project implementation expertise than for those with no prior project implementation experience (Cuong, 2012). The author gathers data indicating that firms have invested in at least one project that has been successfully executed, resulting in positive earnings for the enterprises. Data on successfully implemented projects will be coded "1" If an enterprise has successfully implemented a project, project implementation experience data will be coded "0" whereas businesses that have successfully implemented a project (positive profit recognition) will have a positive impact. Positive influence on the BOT toll station project’s capacity to operate successfully. Therefore, hypothesis $H_4$ is proposed as follows:
Critical Factors that Influence the Effectiveness of Exploiting Toll Booth (Build - Operate - Transfer - Bot) Projects in Vietnam: Sponsorship Bank’s View

$H_4$ – Project implementation experience has a positive impact on the ability to effectively exploit the BOT toll station project.

**Transparent Bidding - TB**

Transparency regarding project-related information is critical when bidding for a BOT toll station project, as it enables businesses to learn and capture accurate and complete information, thereby contributing to the decision to invest in the BOT toll station project and establishing a balance for all parties involved (Anh, 2021). The determinant Transparency in bidding is encoded as "1" if the enterprise determines that the toll station project provides sufficient information in a clear and transparent manner, and as "0" if the enterprise indicates that the toll station project does not provide sufficient information or that the information provided is unclear or incomplete. Thus, how firms may get complete, accurate, and timely information for bidding on BOT toll station investments is a significant challenge in the majority of cities. Businesses are intrigued by these endeavors. As a result, hypothesis $H_5$ is as follows:

$H_5$ – The transparency factor in bidding has a positive impact on the project’s ability to exploit effectively.

**Location Station - LS**

Why is it necessary to consider the placement of the BOT toll station? Because station placements are estimated and defined in the projects prior to the competent authority approving the project for execution. However, there is no survey of payers to use the BOT infrastructure (individuals/economic organizations or connected businesses) or other agencies with modes of transport passing through the station in the estimations. The majority of BOT projects do not include an evaluation of the effect on the payers, i.e. the users of the BOT road, in their impact assessment report.

Why does the BOT toll station's location matter? Because station placements are estimated and decided in projects prior to the competent authority authorizing the project for execution. However, no survey of payers to use the BOT infrastructure (individuals/economic organizations or connected entities) or other agencies with modes of transport passing through the station is included in the estimations used to determine the site of the BOT toll station. The majority of BOT projects' impact assessment reports exclude an evaluation of the road's payers, i.e. the road's users.

The placement of the BOT toll station is critical to ensuring that BOT investment projects are economically viable. However, considering how to set up toll booths in a way that balances the goal of toll collection through the station with the need for safety and security, as well as garnering support/consensus from parties with related rights and interests, particularly individuals/economic organizations with modes of transport passing through the station, helps avoid negative impacts from the arrangement of toll collection locations from the BOT station that are consistent with reality (Tho & Hung, 2014).

The placement of BOT toll stations is marked "1" if the site is deemed suitable and reasonable by relevant stakeholders. On the other hand, negative input from linked parties is marked "0" when the position of the toll booth is deemed improper, resulting in irritation for the parties. Hence, the following hypothesis $H_6$ is proposed:

$H_6$ – The location factor of the BOT toll station has a positive impact on the ability to effectively exploit the BOT project.

**Research Models**

Based on the research hypotheses, the research model is formulated and proposed as follows:
The model proposes a standardized regression equation to test the hypotheses of the following form:

\[ E(Y/X) = \beta_0 + \beta_1 IC_{it} + \beta_2 EE_{it} + \beta_3 OS_{it} + \beta_4 PE_{it} + \beta_5 TB_{it} + \beta_6 LS_{it} + u_{it} \]

In there:
- \( E(Y/X) \): dependent variable Effective exploitation of BOT toll station project.
- \( \beta_0 \): intercept factor.
- \( \beta_1 \rightarrow \beta_6 \): regression coefficients of each independent variable.
- \( X_1 \rightarrow X_6 \): independent variables in order: Invested Capital; Economic Efficiency; Operating Staff; Project Experience; Transparent Bidding; Location Station.

**DATA ANALYSIS AND RESULTS**

Research data is collected based on annual financial statements and capacity profiles of 35 enterprises (the enterprises are operating in transportation field at Vietnam) are sponsored by Vietnam commercial banks in the period from 2018 to 2022. Post-collected data have been collected. It is processed through estimating regression models in turn according to Pooled Ordinary Least Squares (Pooled_OLS), Fixed Effect Model (FEM) method, Random Effect Model (REM) method; model selection test (Hausman test, Time Fixed Effect test, from which to choose a suitable model for the study: FEM fixed effect model) and diagnostic test (multicollinearity test, test variance determination).

**RESEARCH RESULTS AND MANAGEMENT IMPLICATIONS**

**Research Results**

After sifting data sets from annual financial statements and performance profiles of 35 enterprises in Vietnam (financed by loans from domestic commercial banks), with a total of 175 observations.

The authors run the data on the program STATA 17 through estimating the regression model by Pooled_OLS method, fixed effect method (FEM), and random effect method (REM), selection test model (Hausman, Time Fixed Effect) and diagnostic testing (multicollinearity, variable variance) to specifically consider the impacts of each independent factor on the ability to effectively exploit the station project. BOT fee collection as well as the statistical significance of each factor.
Critical Factors that Influence the Effectiveness of Exploiting Toll Booth (Build - Operate - Transfer - Bot) Projects in Vietnam: Sponsorship Bank’s View

Table 1: Regression results with 3 models (Pooled_OLS, FEM, REM)

| Variables | Pooled_OLS | | | | FEM | | | | | REM | | |
|-----------|------------|---|---|---|---|---|---|
|           | Coef. | P > t | Coef. | P > t | Coef. | P > t |
| C         | -0.692 | 0.005 | -0.661 | 0.007 | -0.693 | 0.005 |
| IC        | 0.008 | 0.014 | 0.001 | 0.005 | 0.001 | 0.014 |
| EE        | 0.016 | 0.012 | 0.013 | 0.021 | 0.016 | 0.012 |
| OS        | 0.094 | 0.000 | 0.059 | 0.001 | 0.094 | 0.000 |
| PE        | 0.479 | 0.000 | 0.411 | 0.011 | 0.479 | 0.000 |
| TB        | 0.010 | 0.451 | 0.038 | 0.048 | 0.010 | 0.451 |
| LS        | 0.032 | 0.445 | 0.086 | 0.018 | 0.032 | 0.445 |

R Square: 0.629, Adjusted R Square: 0.620, F statistic: 25.26, P = 0.000, R Squared: 0.627

Hausman: Chi-square (2) = 52.63, Prob > F = 0.000

(Time Fixed Effect) F = 17.69, P-value = 0.000

(With the significance level of 1%, p-value = 0.000 with Hausman test, the FEM model has higher reliability than the REM model, so the FEM model is selected.

Next, in order to determine which model is more effective in explaining the relationship between the variables between the two Pooled_OLS models and the FEM model, the Time Fixed Effect test shows that with p-value = 0.000 at the same level 1% significance, the FEM model is more reliable. Therefore, the FEM model was selected in this study.

At the same time, the model does not have multicollinearity, the VIF coefficients of the 6 components are all < 2.

Table 2: FEM model correctional result

| Variable | Coef. | Std.Err. | t-stat | p>|t| |
|----------|-------|----------|--------|------|
| C        | -0.525 | 0.156 | 1.382 | 0.020 |
| IC       | 0.003 | 0.001 | 0.351 | 0.007 |
| EE       | 0.028 | 0.002 | 0.352 | 0.011 |
| OS       | 0.069 | 0.018 | 0.251 | 0.016 |
| PE       | 0.427 | 0.123 | 0.185 | 0.023 |
| TB       | 0.092 | 0.122 | 0.222 | 0.038 |
| LS       | 0.097 | 0.020 | 0.013 | 0.019 |

R Square: 0.673, F statistic: 141.784, P = 0.000

(The results of the FEM model calibration show that Investment capital (IC), Economic efficiency (EE), Operating Staff (OS), Project Experience (PE), Transparent bidding (TB), and Location Station (LS) has a positive impact on the Enterprise's ability to effectively exploit the BOT toll station project (Y). The test values are p-value = 0.007 (IC), p-value= 0.011 (EE), p-value = 0.016 (OS), p-value = 0.023 (PE), p-value= 0.038)
The, Van and Quang

(TB), p-value = 0.019 (LS). At the 5% level of significance, the above test values are statistically significant. The coefficient R² = 67.3% means that the built linear regression model fits the data set to 66.8% or in other words, the independent variables in the model explain 67.3% of the variation of the ability to effectively exploit the BOT toll station project. That is, the convergence of these 6 factors (IC, EE, OS, PE, TB, and LS) will predict the possibility of the BOT toll station project being exploited effectively at 67.3%. Thus, there is about 32.7% remaining possibility that the BOT toll station project when deployed will be inefficiently exploited.

The specific regression equation of the FEM model is as follows:

\[ E(Y/X) = -0.525 + 0.003\text{ IC} + 0.028\text{ EE} + 0.069\text{ OS} + 0.472\text{ PE} + 0.092\text{ TB} + 0.097\text{ LS} \]

The regression results show:

Investment capital (IC) has statistical significance (p-value = 0.007 < 0.05), the individual regression coefficient \( \beta_1 \) of variable IC has a positive sign, this shows that Investment capital has a positive effect on the ability to effectively exploit the BOT toll station project of the enterprise. In other words, when the investment capital increases by 1%, it will increase 0.003%. The ability to operate the BOT toll booth effectively in the condition that other factors remain unchanged.

Economic efficiency (EE) has statistical significance (p-value = 0.011 < 0.05), the individual regression coefficient \( \beta_2 \) of variable EE has a positive sign, showing that Economic efficiency has a positive impact on the enterprise's ability to effectively exploit the BOT toll station project. In other words, when the economic efficiency variable increases by 1%, it will increase 0.028% the ability to operate the BOT toll booth effectively in the condition that other factors remain unchanged.

Operating staff (OS) has statistical significance (p-value = 0.016 < 0.05), the individual regression coefficient \( \beta_3 \) of the variable OS has a positive sign, showing that the variable OS has a positive impact on the ability to effectively exploit the BOT toll station project of the enterprise. When the OS variable increases by 1%, it will increase by 0.069%. The enterprise's ability to operate BOT toll booths is effective in the condition that other factors remain unchanged.

Project experience (PE) has statistical significance (p-value = 0.023 < 0.05), the individual regression coefficient \( \beta_4 \) of the variable PE has a positive sign, showing that the variable Project implementation experience has a positive effect on the enterprise's ability to effectively exploit the BOT toll station project. When the Project Implementation Experience variable increases by 1%, it will increase 0.427% the ability to operate the BOT toll station effectively in the condition that other factors remain unchanged.

Transparent bidding (TB) has statistical significance (p-value = 0.038 < 0.05), the individual regression coefficient \( \beta_5 \) of variable TB has a positive sign, showing that the variable Transparency in bidding has a positive effect on the enterprise's ability to effectively exploit the BOT toll station project. When the variable Transparency in bidding increases by 1%, it will increase 0.092% the ability of enterprises to operate BOT toll booths effectively in the condition that other factors remain unchanged.

Location station (LS) has statistical significance (p-value = 0.019 < 0.05), the separate regression coefficient \( \beta_6 \) of the variable LS has a positive sign, showing that the variable Location of the BOT toll station is located have a positive impact on the enterprise's ability to effectively exploit the BOT toll station project. When the variable Location of the BOT toll station increases by 1%, it will increase 0.097% the ability of the enterprise to operate the BOT toll station effectively in the condition that other factors remain unchanged.

Management Implications

To ascertain the factors affecting companies' capacity to run the BOT toll station project successfully, the research determined that six factors have a favorable influence on the ability of firms to operate the BOT project effectively. Which variable has the greatest beneficial effect (\( \beta_4 = 0.427 \)), followed by the location of the BOT toll station (\( \beta_6 = 0.097 \)), and the least positive effect (\( \beta_1 = 0.003 \)).

As a consequence of the foregoing findings, in order to conduct a complete evaluation of the elements affecting an enterprise's capacity to successfully exploit BOT projects, the board of directors/business owners must
carefully analyze these aspects prior to investing in and exploiting BOT projects. To enhance firms' capacity to efficiently utilize BOT initiatives, business managers must consider the following factors: Invested capital; Economic efficiency; Operating staff; Project experience; Transparent bidding; and Location station. The author makes the following recommendations to assist companies in properly using the BOT project in which they have invested:

First, economic efficiency is evaluated throughout the planning, survey, evaluation, and approval processes for investment projects. By approving the technical design, construction, and operation of the BOT toll station project, the enterprise will provide data on the total investment required to complete the project with a reasonable investment capital structure, which includes the investor's own capital and loans from credit institutions (including loan interest during the project implementation period), allowing the investor to determine the optimal time to exploit the project to achieve payback close to the project's actual life cycle.

Second, enterprises must adhere to appropriate accounting standards for the recording of incurred costs, the recognition of revenue from the collection of tolls from modes of transport passing through the station, and the recording of profits, in conjunction with effectively utilizing toll booth operations, cost savings, effective internal control, and being honest, open, and transparent about revenue and expenditure in order to ensure profit growth year after year through toll collection.

Thirdly, the staff members assigned to each job (toll collectors, supervisors, accountants and treasurers, and shift leaders) would be involved in the process of exploiting and managing the BOT toll station project. Participate actively in training classes, transportation-related training courses, legal classes, particularly professional ethics classes, and soft skills classes to equip them with knowledge, understanding, and behavioral skills appropriate for dealing with relevant parties (individuals/organizations using modes of transport through the station, agencies and agencies inspecting the toll collection activities of BOT stations, etc.) of these personnel. Simultaneously, the enterprise has policies, regulations governing the addition/replacement/transfer/appointment/resignation of personnel during the operation of the BOT toll station project. These policies/regulations ensure that personnel are positioned appropriately and that the BOT station operates at peak efficiency.

Fourth, project implementation experience is critical, as it provides a competitive advantage for enterprises with prior project implementation experience with other competitors (enterprises) when bidding, as businesses will draw numerous lessons from experience, overcome errors/omissions, and offer solutions to improve future project efficiency. For firms that have never implemented a project, it is critical to thoroughly research all relevant information and data about the project. Practices from other domestic and international units and organizations who have successfully completed comparable projects through face-to-face or online meetings to get project implementation expertise, seminars, scientific seminars, etc. to decrease risks and the chance of failure during the project's implementation.

Fifth, transparency in bidding must be understood, prioritized, and publicly revealed by all relevant parties at all times, such as throughout the project's development and execution. BOT toll station projects must strictly adhere to regulations, processes, and legal documents governing construction investment in the form of BOT, project documents (design, total investment, selection documents), contractor selection, acceptance, payment, settlement, and documents establishing financial capacity, as well as other pertinent documents, papers, and documents during the BOT toll station project's implementation) must be valid, clear, transparent, and in accordance with the instructions. If done correctly, this job will assist competent and capable organizations in developing confidence in project execution, quality assurance, cost management, and advancement.

Finally, before investing in a BOT toll station project, the company's board of directors should make recommendations and coordinate with related parties on the basis of a thorough market study conducted by surveying the area, visiting by opinion of people/other relevant organizations (such as agencies, departments, economic organizations, particularly enterprises operating in the field of transportation exploitation - units with means of traffic) on how the BOT toll station located at that location will function. Consider investing if you get a high volume of negative feedback/reactions or strident objections/protests from stakeholders with stakes.
in the outcome. Overcoming shortcomings in the position of BOT toll booths, which cause people dissatisfaction, and partly mitigating dangers associated with exploitation of BOT toll collecting schemes.

CONCLUSION
The study provided and explained related concepts such as invested capital, economic efficiency, operating staff, project experience, transparent bidding, location station. It helps readers better understand the factors affecting the efficiency of the BOT toll station project.

With the regression equation in the study built, the Board of Directors will have more basis to evaluate the constituent factors, test the model to forecast the possibility of exploiting the stations. Collecting BOT fees by enterprises will be effective or not. From there, the Board of Directors will review and make governance policies with adjustments to suit each component of the studied regression equation.

In addition to the results obtained from the study, it is expected that the research can assist the Board of Directors (the unit interested in the operation of the BOT toll station project) in forecasting the possibility of effective exploitation of the BOT toll station project. project results or not through the construction model. The topic also has some limitations in terms of sample size as well as the level of interpretation of the model is still at an average level because there are some other factors that the author has not collected enough information/data. Therefore, the topic needs to be further researched in the next topics. In summary, the study has contributed to broadening the understanding of the components affecting the ability of enterprises to effectively exploit the BOT toll station project. This is an interesting topic for other studies on forecasting when evaluating the feasibility of projects/business plans, implementing and operating BOT toll stations in particular and the transport sector in general.

The results in this study can be used by enterprises to consult information before deciding to invest in a BOT toll station project in the country where the enterprise intends to deploy.

Finally, the research was conducted in the field of project management of BOT toll station in Vietnam, it has not covered other areas of project management as a whole yet. However, the study was conducted in Vietnam, it is possible to consider implementing research in other countries with the need for cooperation in providing secondary data from enterprises participating in the survey.

Limitations and Suggestions for Further Studies
The study has some limitations. First, secondary data is provided by joint stock commercial banks (Vietnam), it may appear that businesses want to access loans and meet requirements from banks, so business data The supply industry is handled technically.

Second, according to Macdonald & Nguyen (2022), investors are still mostly chosen via contractor appointments, and certain investors' ability remains restricted; capital mobilization activity continues; The construction duration for certain works is still excessive, and the quality of other works falls short of the standards. This is an issue that joint stock commercial banks need to consider when making decisions to approve funding sources for BOT projects.

Finally, secondary data collected during the period 2018 - 2022, this is the period when the covid-19 pandemic. This may affect business operations and does not reflect the true nature of the potential of businesses planning to apply for bank loans to implement BOT projects

REFERENCES


Ponnaluri R., & Ackert M. (2018), Evaluation of Project Processes in Relation to Transportation System Management and Operations (TSM&O), Research Center Florida Department of Transportation.

