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Research Article

Investor Delay Cost Estimation as a Strategic Tool for Improving Private Investment Process Efficiency

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Rizky Pratama
Department of Management, Indonesia

Siti Rahmawati
Department of Economics, Indonesia

Abstract

Private investment processes are frequently affected by temporary delays arising from information gaps, financing constraints, administrative procedures, technological limitations, and uncertainty in investor decision-making. Although delays are often treated as operational inconveniences, their economic consequences can influence capital allocation efficiency, financing relationships, and the overall performance of private investment systems. This research examines investor delay cost estimation as a strategic mechanism for improving the efficiency of private investment processes. The study adopts a conceptual and analytical review methodology based exclusively on the supplied literature concerning SME financing, financial relationships, digital financial services, information needs, corporate governance, banking efficiency, and investor delay costs. A conceptual Investor Delay Cost Estimation Framework (IDCEF) is developed to connect delay duration with direct financial costs, opportunity costs, financing costs, information costs, and process inefficiencies. The analysis indicates that temporary investment delays should be evaluated as measurable economic costs rather than merely chronological deviations. The framework demonstrates how timely information, digital financial infrastructure, improved governance, stronger financing relationships, and systematic cost estimation can reduce avoidable delays. The findings further suggest that delay-cost estimation can support investment prioritization, process redesign, risk management, and capital productivity. However, estimation accuracy depends on reliable information, appropriate valuation assumptions, and contextual characteristics of investment markets. The study contributes a structured perspective for integrating temporal efficiency into private capital management and provides a foundation for empirical validation.

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KEYWORDS

Investor delay cost, private investment, capital management, investment efficiency, financing processes, SME finance, digital finance, opportunity cost, investment decision-making, process efficiency.

INTRODUCTION

Private investment efficiency depends not only on the availability of capital but also on the speed and quality with which capital is converted into productive economic activity. An investment opportunity may be financially attractive at the point of evaluation but become less valuable when decision-making, financing, documentation, approval, or fund deployment is delayed. Consequently, time represents an economically relevant dimension of private capital management. The central problem addressed in this study is that temporary investor delays are commonly considered process-level issues rather than measurable components of investment cost.

The financing environment of small and medium-sized enterprises (SMEs) demonstrates the importance of this issue. Financing schemes, access to financial institutions, credit relationships, and digital financial services influence the ability of firms to obtain and utilize capital effectively (Mensah, 2004; Owusu et al., 2017). At the same time, information requirements and information asymmetry can affect the speed and quality of financing decisions. Sen and Taylor (2007) emphasize the importance of information needs in SME decision environments, while Petersen and Rajan (1995) demonstrate the relevance of lending relationships and credit-market competition to financing behavior.

Technological development further changes the structure of investment and financing processes. ICT adoption can influence knowledge creation within SMEs (Lopez-Nicolas & Soto-Acosta, 2010), while mobile money and electronic banking can alter financial accessibility and transaction processes (Ngaruiya, 2014; Mansor et al., 2012). These developments suggest that investment delays are not determined solely by investor preferences. They can emerge from organizational, informational, technological, financial, and institutional conditions.

The economic importance of temporary delay is particularly relevant when investment opportunities have changing values over time. Mikhail (2024) conceptualizes the estimation of investors' temporary delay costs as a factor for improving private capital management efficiency. Building on this perspective, the present study treats delay cost as a multidimensional measure that captures the financial and operational consequences of postponed investment decisions and capital deployment.

The primary objective is therefore to develop an analytical framework for estimating investor delay costs and examining how such estimation can improve private investment process efficiency. The study specifically seeks to identify the principal components of delay cost, establish their relationship with investment-process performance, and explain how delay-cost information can support strategic capital-management decisions.

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The significance of the study lies in shifting attention from the simple measurement of elapsed time toward the economic consequences of that time. Rather than asking only how long an investment process takes, the proposed approach asks what the delay costs, why the cost occurs, who bears it, and how process redesign can reduce it.

LITERATURE REVIEW

The supplied literature provides several complementary perspectives for understanding investor delay costs. Although the references do not collectively constitute a direct empirical literature on delay-cost estimation, they establish the financial, informational, technological, and governance conditions through which delays can emerge.

Mensah (2004) examines SME financing schemes in Ghana, highlighting the importance of financing structures for businesses requiring external capital. Owusu et al. (2017) similarly propose a conceptual framework for SME growth financing. Together, these studies position financing access as an essential determinant of business expansion. From the perspective of delay economics, however, financing access must be considered alongside the time required to secure that access. A financing mechanism that is theoretically available but administratively slow may impose an implicit cost on the investor or enterprise.

Petersen and Rajan (1995) provide an important theoretical foundation by examining the relationship between credit-market competition and lending relationships. Their work suggests that financial relationships influence the conditions under which capital is supplied. This is relevant to delay estimation because established relationships may reduce information and verification costs, potentially shortening financing cycles. Conversely, weak relationships may increase the time required to establish confidence and complete financing decisions.

Information represents another major source of delay. Sen and Taylor (2007) examine the information needs of SMEs and identify information as an important factor in organizational success. Lopez-Nicolas and Soto-Acosta (2010) connect ICT adoption with knowledge creation, suggesting that technological capabilities can influence how information is generated and utilized. In an investment process, incomplete or poorly structured information can increase verification requirements, create repeated communication, and delay investor decisions.

Digital financial channels provide another dimension. Mansor et al. (2012) examine awareness of Islamic financial institution e-banking among Malaysian SMEs, while Ngaruiya (2014) considers mobile money transactions and SME financial performance. Pyun et al. (2002) analyze Internet banking across the United States, Japan, and Europe, and Prakash and Malik (2008) examine Internet banking in India. Collectively, these references indicate that digital financial infrastructure can alter transaction accessibility and financial-service delivery. However, technological availability does not automatically eliminate delay. Adoption, awareness, usability, institutional processes, and information quality determine whether digital systems actually reduce process time.

Mols et al. (1999) examine distribution channel strategies in Danish retail banking, demonstrating

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the importance of channel structures in financial-service delivery. This perspective can be extended to investment processes: the channel through which information, documentation, approvals, and transactions move can influence process duration and cost.

Governance and institutional structures are also relevant. OECD (2004) emphasizes corporate-governance principles, while Peek and Rosengren (1996) examine capital ratios as mechanisms for intervention in problem banks. These studies indicate that financial decision-making operates within governance and risk-control structures. Such controls may increase process time but can simultaneously reduce exposure to poor-quality decisions. Therefore, the objective should not be to minimize time unconditionally but to minimize avoidable delay while preserving necessary due diligence.

Schiffer and Weder (2001) examine firm size and the business environment, while Scott and Dunkelberg (2003) investigate bank mergers and small-firm financing. These studies reinforce the idea that financing conditions vary across organizational and market contexts. Consequently, delay-cost estimation should not rely on a universal cost parameter.

Safoulanitou et al. (2013) examine SMEs and innovation across Cameroon, Congo, and the Democratic Republic of Congo, reinforcing the relationship between organizational development, innovation, and financing environments. Obamuyi (2009) investigates loan delinquency among SMEs in Nigeria, demonstrating the importance of repayment-related financial behavior in lending environments.

The literature therefore reveals a research gap. Existing studies address financing access, banking channels, information, governance, and financial relationships, but they do not collectively provide an integrated framework for translating temporary investment delays into measurable economic costs. Mikhail (2024) directly addresses this conceptual problem by treating investor temporary delay as an efficiency factor in private capital management. The present study extends that perspective by developing a multidimensional analytical framework that incorporates direct costs, opportunity costs, financing costs, information costs, and process costs.

METHODOLOGY

3.1 Research Design

This study uses a conceptual research and review design. The methodology synthesizes the supplied literature and develops an analytical framework rather than testing a statistical hypothesis with primary data. This approach is appropriate because the research objective is to establish a structured method for understanding and estimating investor delay costs from existing theoretical and applied perspectives.

The analysis follows three stages. First, the literature is classified into financing, information, technology, governance, and investment-delay dimensions. Second, the economic components of temporary delay are identified. Third, these components are integrated into a conceptual Investor Delay Cost Estimation Framework (IDCEF).

3.2 Conceptualization of Investor Delay Cost

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Investor delay cost is defined as the economic value lost or additional expenditure incurred because an investment decision, financing approval, or capital deployment occurs later than the economically efficient point.

A general formulation is:

$$IDC = DC + OC + FC + IC + PC - RC$$

where:

IDC = Investor Delay Cost

DC = Direct Cost

OC = Opportunity Cost

FC = Financing Cost

IC = Information and Coordination Cost

PC = Process and Administrative Cost

RC = Recoverable or Avoided Cost

Direct costs include additional administrative expenditure caused by prolonged processing. Opportunity cost represents the value of alternative investment or productive activity forgone during the delay. Financing cost captures additional interest or financing expenses generated by postponed capital deployment. Information and coordination costs arise from repeated verification, communication, documentation, and decision-making. Process costs include administrative inefficiencies associated with prolonged investment cycles.

The inclusion of recoverable cost prevents double counting. For example, if a delayed investment ultimately produces the same economic value and no additional financial loss occurs, the delay should not automatically be treated as a full economic loss.

3.3 Delay Duration and Cost Rate

A basic estimation model can be expressed as:

$$IDC = D \times C^d$$

where D is delay duration and C^d is the average economic cost per unit of delay.

However, a constant cost rate is unlikely to represent real investment conditions. The cost of delay may increase nonlinearly when investment opportunities become time-sensitive. Therefore, a more flexible formulation is:

$$IDC = \Sigma(D_t \times C_t)$$

where C_t changes according to the economic conditions associated with each delay period.

For example, a private investor considering a productive asset may face relatively low delay costs during initial due diligence but substantially higher costs after a financing commitment has been secured and the asset is ready for acquisition. This demonstrates why delay should be analyzed according to process stage rather than measured only as total elapsed time.

3.4 Information and Technology Dimension

Information quality can reduce unnecessary delay by reducing uncertainty and repeated verification. Sen and Taylor (2007) demonstrate the importance of information requirements, while Lopez-Nicolas and Soto-Acosta (2010) connect ICT adoption with knowledge creation. Therefore, investment systems with structured information repositories, standardized documentation, and efficient communication channels may have lower coordination costs.

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Digital banking studies further suggest that electronic channels can influence transaction efficiency (Mansor et al., 2012; Pyun et al., 2002; Prakash & Malik, 2008). Nevertheless, technology should be treated as an enabling variable rather than an automatic solution. A digital system may transfer a slow manual process into a digital environment without eliminating its underlying bottleneck.

3.5 Financing Relationship Dimension

Financing relationships can affect both decision speed and financing conditions. Petersen and Rajan (1995) demonstrate the importance of lending relationships, while Mensah (2004) and Owusu et al. (2017) emphasize financing mechanisms for SMEs.

Under the proposed framework, relationship quality can be represented as a delay-reduction factor. A mature relationship may reduce documentation and information asymmetry, whereas a new relationship may require additional verification. The framework therefore recommends recording the historical processing time associated with different financing relationships.

3.6 Governance and Control Dimension

Governance mechanisms should not be interpreted as sources of delay that must simply be eliminated. OECD (2004) demonstrates the importance of corporate-governance principles, while Peek and Rosengren (1996) show how financial controls can support intervention and risk management.

Consequently, the framework distinguishes necessary control time from avoidable process delay. Necessary due diligence protects investors from information and financial risks, whereas repeated approvals, unclear responsibilities, and unnecessary documentation represent potential process inefficiencies.

3.7 Hypothetical Application

Consider a private investment opportunity requiring capital deployment within 30 days. Suppose internal approvals and financing arrangements extend the process by 15 additional days. If the investment generates an expected daily economic benefit of ₹20,000 during the deployment period, the opportunity component of delay cost would be approximately ₹300,000.

If additional financing costs of ₹50,000 and administrative coordination costs of ₹25,000 arise, the estimated delay cost becomes:

IDC = ₹300,000 + ₹50,000 + ₹25,000 = ₹375,000

The calculation does not imply that every delayed investment generates an identical loss. Instead, it demonstrates how delay can be translated into a decision variable that managers can compare against the cost of process improvement.

RESULTS

The analytical synthesis produces five principal findings regarding the role of investor delay-cost estimation in private investment efficiency.

First, investor delay should be treated as an economic variable rather than a purely operational indicator. Financing studies demonstrate that access to capital is closely connected with SME growth and business activity (Mensah, 2004; Owusu et al., 2017). When capital is delayed, its productive utilization is also postponed. Mikhail (2024) reinforces this perspective by identifying

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temporary investor delay cost as a factor affecting private capital management efficiency. The implication is that investment-process performance should be evaluated using both time and economic cost.

Second, delay costs are multidimensional. The literature indicates that financing conditions, information requirements, digital channels, and organizational relationships influence financial processes (Petersen & Rajan, 1995; Sen & Taylor, 2007; Mansor et al., 2012). Consequently, measuring delay solely through lost investment returns would underestimate its total effect. Administrative expenses, financing charges, repeated information exchanges, and opportunity costs can accumulate during a delayed process.

Third, information and technology represent significant mechanisms for reducing avoidable delay. ICT adoption can facilitate knowledge creation (Lopez-Nicolas & Soto-Acosta, 2010), while Internet banking and mobile financial services can improve transaction accessibility (Pyun et al., 2002; Prakash & Malik, 2008; Ngaruiya, 2014). However, the findings indicate that technology produces efficiency only when supported by organizational readiness, adequate information, and effective process design. Technology without process restructuring may digitize inefficiency rather than eliminate it.

Fourth, financing relationships and governance generate a strategic trade-off between speed and control. Strong financial relationships may facilitate lending processes, whereas governance requirements may intentionally increase decision time to reduce risk (Petersen & Rajan, 1995; OECD, 2004). Therefore, the optimal investment process is not necessarily the fastest process. It is the process that minimizes economically unjustified delay while preserving necessary risk controls.

Fifth, delay-cost estimation can function as a strategic management instrument. Once delay is expressed in monetary terms, managers can compare the expected cost of delay with the cost of process improvement. For example, if a digital documentation system costs ₹100,000 to implement but is expected to reduce annual delay losses by ₹300,000, the investment becomes economically justifiable. This converts process optimization from a qualitative objective into a capital-allocation decision.

Overall, the findings support the proposed Investor Delay Cost Estimation Framework as a practical conceptual mechanism for identifying costly bottlenecks, prioritizing process improvements, and improving the productivity of private capital.

DISCUSSION

The findings have important theoretical implications because they extend conventional interpretations of investment efficiency beyond the static relationship between capital availability and financial return. The literature supplied for this study demonstrates that financing efficiency is influenced by relationships, information, technology, institutional conditions, and financial infrastructure. The proposed framework integrates these factors through time as an economic dimension.

The most important theoretical contribution is the distinction between delay duration and delay cost. Two investment processes may experience identical 10-day delays but generate substantially different economic consequences. If one

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investment involves a low-return, non-time-sensitive asset and the other involves a rapidly changing opportunity, their delay costs will differ. Mikhail (2024) provides the central conceptual basis for treating temporary investor delay as a measurable efficiency issue. The present framework develops this idea by decomposing delay cost into identifiable financial and process components.

The literature also reveals an important contradiction between speed and control. Digital finance, improved information systems, and stronger financing relationships can reduce transaction time (Lopez-Nicolas & Soto-Acosta, 2010; Pyun et al., 2002; Petersen & Rajan, 1995). However, governance and risk-management mechanisms may require additional verification (OECD, 2004; Peek & Rosengren, 1996). Eliminating every delay would therefore be economically inappropriate. Some delays protect capital from misallocation. The strategic objective should instead be to identify the marginal value of additional processing time.

This distinction has practical implications for investors, financial institutions, and SME managers. Process managers can assign monetary values to recurring delays and rank bottlenecks according to their financial significance. Information systems can then be redesigned around the highest-cost stages. For example, if documentation delays consistently generate higher costs than transaction execution delays, organizational resources should first target documentation workflows rather than payment infrastructure.

The findings also indicate that digitalization should not be evaluated solely by adoption rates. Mansor et al. (2012), Ngaruiya (2014), and Prakash and Malik (2008) demonstrate different dimensions of electronic and mobile financial activity. Their relevance to delay estimation lies in showing that accessibility and transaction technology can influence financial processes. Yet adoption without effective integration may fail to produce meaningful reductions in delay.

The framework has limitations. First, it is conceptual and requires empirical validation using transaction-level investment data. Second, opportunity costs are inherently dependent on assumptions about alternative investment returns. Third, different sectors may exhibit substantially different time sensitivities. Fourth, the supplied literature primarily addresses related dimensions such as SME financing, banking, information, and governance rather than directly measuring private-investment delay. Finally, a simplistic monetary model could encourage excessive pressure for speed and undermine necessary due diligence.

Despite these limitations, the framework offers a useful basis for future empirical research. Researchers could collect data on investment processing times, financing costs, expected returns, administrative expenses, and investment outcomes to estimate the actual marginal cost of delay. Such evidence could enable organizations to establish delay-cost thresholds and determine when additional process investment produces positive economic returns.

Conclusion

Investor delay is an economically meaningful component of private investment efficiency because the value of capital depends not only on its

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amount but also on the timing of its deployment. This study developed a conceptual Investor Delay Cost Estimation Framework based exclusively on the supplied literature and demonstrated how temporary delays can be translated into direct, opportunity, financing, information, and process-related costs.

The literature indicates that financing relationships, information availability, ICT adoption, digital financial channels, governance, and institutional structures can influence the efficiency of investment and financing processes. The proposed framework integrates these dimensions by treating time as a measurable economic resource. Its central principle is that organizations should not seek to eliminate all delays; rather, they should distinguish necessary control time from avoidable delay and prioritize interventions according to economic impact.

The study contributes to private capital-management research by connecting process duration with economic cost. Delay-cost estimation can support investment prioritization, workflow redesign, technology investment, financing strategy, and performance measurement. In practical terms, a private investment organization can use the framework to identify where delay occurs, quantify its economic consequences, and compare those costs with the expected benefits of process improvement.

Future research should empirically test the proposed framework using investment-level longitudinal datasets. Such research could examine differences across sectors, firm sizes, financing channels, and institutional environments. It could also develop nonlinear delay-cost models capable of capturing situations in which the economic cost of delay accelerates as investment opportunities become more time-sensitive. Empirical validation would strengthen the framework's usefulness as a strategic instrument for improving the efficiency, responsiveness, and productivity of private capital management.

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